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Vol. 11 NOVEMBER, 1933 No. 3

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PEABODY JOURNAL OF EDUCATION

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Published bimonthly by the Faculty of
GEORGE PEABODY COLLEGE FOR TEACHERS
NASHVILLE TENNESSEE
Two dollars a year Single copies 40 cents

PEABODY JOURNAL OF EDUCATION

Edited and Published by

THE FACULTY OF GEORGE PEABODY COLLEGE FOR TEACHERS

NASHVILLE, TENNESSEE

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THE PEABODY JOURNAL OF EDUCATION is published bimonthly—in July, September, November, January, March, and May—at George Peabody College for Teachers, Nashville, Tennessee. The subscription price is $2.00 per year; single copies, 40 cents; less than a half year at the single-copy rate. Single copies can be supplied only when the stock on hand warrants. Foreign postage, 20 cents a year extra.

Entered at the post office at Nashville, Tennessee, as second-class mail matter. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized September 14, 1923.

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THE PEABODY JOURNAL OF EDUCATION is indexed in the *Education Index*.

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PEABODY JOURNAL OF EDUCATION

VOLUME 11 NOVEMBER, 1933 NUMBER 3

SECONDARY MATHEMATICS AND CURRICULUM REVISION

F. L. WREN
George Peabody College for Teachers, Nashville, Tennessee

Education is a process of emancipation of the individual that he may more efficiently function as an integral part of the changing social order. The educative process should provide those experiences which will operate to bring about that orientation essential to the individual's better adaptation to a progressive civilization; which will lead him to progressively "direct his action by an integrated and unified attitude to which he increasingly gives his allegiance"; which will encourage him to think independently and constructively, to form careful and unprejudiced judgments, to act courageously and with initiative; and which will furnish the technical necessities for making a living and open up stimulating avenues of thought through which the individual might critically and thoughtfully journey to the formulation of his own social philosophy.

The primary function of the early colonial schools was the education of the individual. The curricula of these schools, evolved under the influence of the Renaissance and Reformation, were formulated to train boys for the different professions and especially the ministry. Since mathematics was not classified among those subjects which contributed to the religious development of an individual, arithmetic, the only mathematical study of importance in the secondary schools of the United States during the colonial period, made its entrance through the early writing school and had to gradually work its way into the curriculum of the Latin grammar school. The subject matter of this arithmetic was logical in arrangement and consisted primarily of a series of rules to be memorized and dogmatically applied according to rather definite classifications.

The social and commercial expansion which developed as a consequence of the westward migration of the early pioneers gradually led to a demand for a more liberal and democratic system of education. As an expression of this expanding democracy the academy was established "to serve the broader need

represented by those who would enter occupational pursuits without going to college, as well as those planning to continue their education."[1] The curriculum of the academy was much broader in its scope than was that of the Latin grammar school and, in general, less dominated by college entrance requirements. As partial evidence of this fact is the rather varied group of mathematical subjects which were introduced into the academy during the period from 1787 to 1870.[2] The particular attention which was given to mathematics in this broader and more democratic educational program was due in part to the possibility of practical applications but principally to the idea of mental discipline. Although the number of mathematical subjects in the curriculum remained fairly uniform throughout the life of the academy, the nature and purpose of instruction underwent a considerable change.

The combined influence of the English and French schools in the mathematics of the academy is evidenced by the large number of English and French texts which appeared during that time. Contemporaneous with the influx of French mathematics there was a revival of interest in elementary education under the influence of the Pestalozzian School. This marked the beginning of a new epoch in arithmetic and the teaching of arithmetic in which the student was supposed to replace the studying and memorizing of rules that he did not always fully understand by the setting up of his own rules as generalizations of his actual experiences.[3] The pupil was introduced to the new topics by means of practical problems and questions, the order of presentation being from the concrete to the abstract. These practices were also evidenced in the teaching of algebra through the effort to effect a gradual transition from arithmetic to algebra and the designing of problems to exercise the learner in reasoning instead of making him a mere listener.[4] The effect on geometry was less emphasis on the purely dogmatic method of instruction and more emphasis on original exercises and construction with more attention given to intuitive geometry.

Public sentiment, molded from the rapidly changing social ideals and conditions of frontier life, became dissatisfied with the limited educational opportunities afforded by the academy, which was to a large extent privately owned and operated. The cry was for a form of public secondary education which would be better adapted to the masses. This scheme was rather slowly accepted and it was not until the latter part of the nineteenth century that the public high school predominated over the academy. In the effort to keep apace of the rapid changes taking place in the social, political, and industrial life

[1] L. V. Koos, The American Secondary School, Ginn and Co. (1927), p. 26.
[2] Paul Monroe, Principles of Secondary Education, The Macmillan Co. (1915), p. 58.
[3] Walter S. Monroe, "Warren Colburn on the Teaching of Arithmetic," Elementary School Journal, Vol. 12 (1911-12), p. 466.
[4] H. G. Meserve, "Mathematics One Hundred Years Ago," The Mathematics Teacher, Vol. 21 (1928), p. 339.

there was expansion in both the number and content of courses offered in the high school curricula of this period. This rapid expansion resulted in both internal and external dissatisfaction with the educational program, and mathematics received its share of the critical attack. The combined efforts of the Committee of Ten on Secondary Education, the Committee on College Entrance Requirements, and the American Committee of the International Commission on the Teaching of Mathematics along with the suggestions and recommendations of Professors John Perry and T. Percy Nunn of England, Felix Klein of Germany, and E. H. Moore of the United States served to introduce many changes in the mathematics curriculum and in the methods of mathematical instruction on the secondary level. Contemporaneous with these innovations there was a new movement taking form that was later to revolutionize the organization of the entire high school program. Up to this time all changes had been of a more or less horizontal character, that is, no question had been raised as to the desirability of readjusting the time devoted to secondary education. In 1893 the Committee of Ten recommended the enriching of the course of study in grades below the high school through the introduction of various topics from algebra, geometry, foreign languages, and the natural sciences.

During its early stages this movement for the reorganization of the educational program centered around the approximate equal division of time devoted to elementary and secondary education. The idea of dividing the six-year secondary school into junior and senior departments did not become a prominent one until the latter part of the first decade of the twentieth century. The underlying philosophy of this division was that the pupils of grades seven, eight, and nine formed a more or less homogeneous group that had interests and presented problems distinct in their nature from those of the earlier elementary grades or the later years of the high school. Such organization entailed, in addition to certain administrative changes, a thorough readjustment of subject matter and methods of instruction. The result was that the mathematical curriculum at the beginning of the third decade of the twentieth century was in a very decided state of flux and confusion, all of which was largely due to the absence of any generally accepted guiding principles and the consequent confusion of objectives.

The National Committee on Mathematical Requirements, although aware of the need for a detailed syllabus which would give the best order of topics with the special time allotment for each, proposed, in their report of 1923, only a general outline by topics and stated that further experimentation was necessary before determining a standardized syllabus. They formulated the aims of mathematical instruction into three general classes: (1) practical aims, (2) disciplinary values, and (3) cultural aims. With the idea in mind that the mathematics of grades seven, eight, and nine should provide opportunity

for broad contact and exploration of abilities, aptitudes, and interests the committee proposed a list of instructional topics with five possible plans of organization. This constituted a body of core material that should be required of all students. The report also contained a similar organization of elective material to be offered in grades ten, eleven, and twelve, with the recommendation that these electives be open to all students who had satisfactorily completed the required work of the junior high school.[5]

Another great influence in the reform of the teaching of mathematics in the secondary schools was that of the College Entrance Examination Board. A Commission appointed by the Board made an outstanding and influential report in 1923. In this report they recommended the elimination from the list of college entrance requirements the extended manipulation of polynomials, the limiting of problems in factoring to three types, the simplification of the requirements in fractions, increased recognition of the use of the formula and graph, simplification of the work in surds, and the introduction of numerical trigonometry. In the plane geometry syllabus only eighty-nine theorems were included and of these approximately one-third were all that were to be required for examination purposes. The Commission further recommended that plane and solid geometry be combined into one course and that more work of a practical value be offered in mensuration.[6]

In 1932, nine years after the publication of the report on the Reorganization of Mathematics in Secondary Education, an analysis of twenty-four texts and fourteen representative courses of study in junior high school mathematics revealed a consensus of opinion regarding some of the basic ideas around which the course of study must be organized. A sum total of a year of arithmetic, at least a half year of intuitive geometry, a year of algebra, an introduction to trigonometry, and enough demonstrative geometry to convey the meaning of demonstration were considered the essentials of a highly desirable course. The arithmetic should be that of life, house, shop, thrift, and every-day business; the intuitive geometry should be creative and constructional; the emphasis in algebra should be on the formula, graph, and equation, and these concepts should be introduced in the seventh grade and continued throughout the three years; the units of trigonometry and demonstrative geometry should enlarge for the pupil the scope of mathematics and should assist him to determine his aptitude and interest in the subject.[7]

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[5]The Reorganization of Mathematics in Secondary Education, The Mathematical Association of America (1923), pp. 6-42.

[6]D. E. Smith, "A General Survey of the Progress of Mathematics in our High Schools in the Last Twenty-five Years," First Yearbook of the National Council of Teachers of Mathematics (1926), pp. 12-14.

[7]Ruth Moncreiff, A Tentative Course of Study in Junior High School Mathematics, Uupublished Master of Arts Thesis, George Peabody College for Teachers (1932), pp. 85-86.

The change in objectives in the teaching of algebra and the change in the style of topics made possible a change in the nature and sequence of subject matter. Much of the obsolete material had been eliminated and new material introduced for the purpose of enriching and improving the course. The first instance of such change was the introduction of the graph which began to receive attention during the first decade of the present century.[8] Another important, and yet more recent change, was the introduction into elementary algebra courses of study a unit of numerical trigonometry, which appears in the modern textbooks with about the same frequency as graphs.[9] A still more recent innovation, and by far the most important one, is the introduction of the concept of functional dependence. Although since the beginning of the twentieth century the constant proposal of all committees has been to replace the formal symbolism of algebra by the notion of functional relationships, it remains true that textbook writers and teachers of algebra fail to utilize the vast possibilities of this unifying element of constructive mathematical thought.

A recent study[10] reveals that one of the most outstanding changes that has taken place in the content of algebra is the kind and number of exercises, with the rate of increase higher for mere tool exercises than for verbal problems. Formulae and equations have received more emphasis of late than they did early in the century. There is a tendency to devote less space to roots and radicals and to shift them to a later part of the course. Exercises in fractions have increased in number but have decreased in percentage of total number; the drill is simpler and comes later in the course with no attention being given to complex fractions. The study of proportion, which received most emphasis during the middle of the nineteenth century, but suffered a decline during the seventies and eighties, has shown an increase in the present decade. The use of the parenthesis increased in frequency and complexity up until the end of the nineteenth century and has declined in recent years. Factoring, which reached its degree of greatest importance by 1910, has shown a marked decrease during the last two decades. Graphs and the function concept have made their entrance and have been showing a gradual though effective increase in influence over the algebra course of study.

The many changes in the textbooks in plane geometry reflect the influences of the criticisms brought against them. While there is by no means a complete agreement as to the organization of subject matter, the authors who seem to have felt the influence of the reform movement have worked toward the same ultimate goal—that of leading the pupil to independent discovery. The

[8] Emily G. Palmer, "History of Graphs in the Elementary Algebra of the United States," The Mathematics Teacher, Vol. 12 (1919), pp. 692-693.

[9] Joseph Jablonower, "Recent and Present Tendencies in the Teaching of Algebra," Seventh Yearbook of the National Council of Teachers of Mathematics, Bureau of Publications, Teachers College, Columbia University, New York (1932), p. 13.

[10] Amy Olive Chateauneuf, Changes in the Content of Elementary Algebra, Philadelphia, Pa. (1929).

criticisms that have been directed toward instruction in geometry may be briefly summarized and classified as follows: (1) failure to establish a concrete basis for demonstrative geometry; (2) lack of opportunity for immediate application of the principles learned; (3) failure to construct texts based on psychological principles; (4) failure to emphasize training in logical thinking; (5) failure to correlate geometry with arithmetic, algebra, trigonometry, and the sciences; (6) failure to recognize the existence of individual differences.

An examination of texts revealed the following evolution of the subject matter in plane geometry:

(1) Efforts on the part of recent writers to establish a concrete basis for the beginning of demonstrative geometry may be summarized as follows:
(a) longer and more informal introductions,
(b) the introduction of developmental exercises,
(c) concrete illustrations of geometric principles,
(d) practical applications,
(e) an increase in pictures illustrating the use of geometry,
(f) the use of drawing instruments.

(2) The decrease in the number of propositions with "ready-made" proofs, the increasingly large numbers of exercises of all types, and the large numbers of exercises placed for immediate application indicate that textbook writers are beginning to realize the importance of applying the geometric principles learned.

(3) From the point of view of psychology of learning it is apparent that significant advances have been made. The contents of the older texts consisted mainly of definitions, propositions, and corollaries. No appeal was made to the pupil's instinct of discovery. Leading pupils into independent discovery through experimental work; giving challenge to his challenge, ingenuity, and imagination; assisting him to an understanding of the principles of geometry through practical applications; all of these constitute sufficient evidence that writers of the more recent texts are giving careful consideration to the psychological structure of geometry as well as the logical.

(4) The recognition of training in logical thinking as a most important result of the study of plane geometry is evident in the changes that have been made in the treatment of the proposition, such as the incomplete proof, the unproved theorem and unsolved problem, the analytic treatment, and in the hints for solution and plan of attack on theorems; in the grouping of theorems; in the significant increase in the number of exercises; in the grading of exercises according to difficulty; and in the question type of exercise.

(5) Attempts to correlate plane geometry with other branches of mathematics are seen in the increased number of algebraic and trigonometric exercises, as well as exercises taken from fields other than mathematics.

(6) The problem of individual differences is partly taken care of by the inclusion of optional material, the differentiation of propositions and exercises, and by following the outlines for maximum and minimum courses as presented by the authors.[11]

The effort to evolve a democratic program of mathematical instruction adapted to the education of the masses resulted in some rather radical changes in organization and presentation of the subject matter. "The disciplinary idea of education and the transfer of training gradually came into disfavor in the last quarter century," and leaders in the teaching of mathematics and in educational psychology began to champion a new emphasis in the selection of and instruction in mathematical subject matter. This new movement placed more emphasis on the practical values of the content and on the psychological rather than the logical form of its arrangement and led to various efforts to

[11]Dell Terry, An Analysis of Some Plane Geometry Textbooks, Unpublished Master of Arts Thesis, George Peabody College for Teachers (1932), pp. 32-34.

relieve secondary mathematics from its "water-tight" compartmentalization. The correlated or general mathematics which was the outgrowth of this new revision became an attempt to not only teach the student some of the great fundamental principles of mathematical thought and technique but also to assist him in achieving a synthesis that the average student missed under the old order. The fact that this new movement was largely contemporaneous with the organization of the junior high school afforded opportunity for the introduction of the new type of mathematics in the three grades of this level of secondary education. Furthermore, two of the fundamental services of the junior high school were to provide for exploration and contact with minimum essentials, which helped to intensify the interest in general mathematics as an instructional unit in its curriculum. This new organization has not affected the mathematics of the senior high school to such an extent. It has had its supporters and contesters and has extended its influence even into the college curriculum.

An eclectic philosophy garnered from "the opinions of leading teachers of mathematics in secondary schools and colleges and of educational philosophers over a period of years" and which is an attempt "to reconcile two philosophies: one, the philosophy of the Committee of Ten (1893) and of the Committee of the National Educational Association on College Entrance Requirements (1899) favoring a substantial, continuous course of study for superior students; the other, the philosophy of modern psychology which recognizes the unsuitability of much of this material for less gifted pupils and would provide markedly different subject matter for them" recommends a course of study for mathematics on the secondary level in which there is a distinct differentiation made in the material for inferior and superior students. The prescribed mathematical instruction for the inferior students would end with a half-year of junior business training with incidental arithmetic in the ninth grade. The course of study for the superior students would have geometry, algebra, and arithmetic in grades seven, eight, and nine; algebra and geometry in parallel for grades ten and eleven; a comprehensive course in advanced mathematics in the twelfth grade; finally, a comprehensive examination to cover the field of secondary mathematics.[12]

In the light of this survey of curriculum adjustments to an evolving social order it seems safe to assume with Hand that "(1) the democratic tradition of free secondary education will continue to find expression in the extension of educational opportunities to increasingly larger proportions of underprivileged adolescents; and (2) a type of training appropriate to the social task confronting the investing state will replace much, if not most, of the present

[12] Ralph Beatley, "Coherence and Diversity in Secondary Mathematics," Eighth Yearbook of the National Council of Teachers of Mathematics (1933), pp. 213-214.

offering."[13] Mathematics has, in the past, been able to adjust its offerings to conform to the current philosophy of curriculum revision. What does the future hold in store for mathematics as a subject of the secondary school curriculum?

Those on the frontier of educational thought today are convinced "that (1) any educational philosophy which is to be significant for American education at the present time must be the expression of a social philosophy, and that (2) the social and educational theories and conceptions must be developed with definite reference to the needs and issues which mark and divide our domestic, economic, and political life in the generation of which we are a part."[14] The rather complex structure of the present social order is not to be analyzed and interpreted through the medium of thin superficialities. The school has not made its most efficient contribution to an individual when it has merely supplied him with the technical equipment sufficient to "adjust" himself externally to a profit seeking civilization. On the other hand just as severe an injustice has been done the individual when his program of education has been confined to subjects that choose to remain pedantic and aloof. The ship sailing the seas needs both the gyroscope and the guiding hand of the pilot who can chart its course carefully and accurately through storm and night. The student should have that training which would provide him with the tool information necessary to comfortable adjustment to his immediate environment, and which would, in addition, help him to formulate his own social philosophy to guide him through the storms of strife and tribulation and the darkness of doubt and despair.

The history of mathematical development has been a reflection of the history of the progress of the human race. This history does not portray the subject as a set of symbols and laws of operation to be learned that they may function merely as "serviceable tools" in some later situation; on the contrary mathematics has been a subject out on the frontiers of thought. As a fundamental mode of thinking, depicting the laws of existing relationships and the science of form, it has made its contribution to the march of civilized progress. As a secondary school subject it has failed to enjoy its rightful heritage, not through any fault of its own, but through the shortcomings of many unprepared and poorly informed teachers who have been unable to put their pupils in contact with this rich reservoir of enlightening information.

The functional relation existing between quantities and measures of quantities is a fundamental principle underlying most of the more important laws of nature and the more eventful activities of man. Future curriculum revision

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[13] H. C. Hand, "Social Reconstruction: Its Implications for Secondary Education," Teachers College Record, Vol. 34 (April, 1933), p. 588.

[14] John Dewey and J. S. Childs, "The Social-Economic Situation and Education," The Educational Frontier, The Century Co., New York (1933), p. 35.

in secondary mathematics will be more definitely centered around this notion of functional dependence. A quite natural development might then be a redefinition of this period of mathematical instruction to extend from the first introduction of the generalized number idea of algebra through the study of the fundamental concepts of infinitesimal analysis. Trigonometry and algebra lead to a better understanding of the significance of functional dependence through a study of the relations existing between the sides and angles of triangles with methods of measuring these relationships; and the graph, formula, and equation with their applications to science, industry, and other fields of thought.

Mathematics as a tool subject is incident to the efficient participation in many of life's activities; as a fundamental mode of thinking that underlies the very structure of existence and intelligent progress it is unsurpassed. There are two aspects of the relation that mathematics bears to the vocational life of man, namely, (1) what mathematical topics are *necessary* for an intelligent, technical efficiency in manipulating the mechanics of any particular vocation, and (2) what mathematical training is *sufficient* to enable an individual to become a leader and point the way to future vocational development? As a language for simplifying, clarifying, and interpreting many of the phenomena of the natural sciences mathematics is invaluable and occupies a dominant role on the frontiers of scientific research. The future of mathematics in the secondary school curriculum lies in the ability of the teachers of mathematics to realize and appreciate the full value of the subject and its close contact with the structure of the social order. The organization and presentation of subject matter may be carried forward from four points of view: (1) the subject matter specialist, (2) the educational theorist, (3) the practical man, and (4) the learner. The teacher of mathematics must perfect his program from the viewpoint of the learner who should be confronted with many opportunities to do constructive thinking, to come into contact with many of the "eternal verities" of life, to realize the intrinsic worth of mathematics as an interpreter of his environment and as a contributor to his more efficient functioning as a member of a civilized social order; and to discriminatingly integrate those principles and truths which tend to make life more significant and from which might evolve a wholesome philosophy of life.

RELATIONSHIP OF SOCIO-ECONOMIC STATUS TO INTELLIGENCE AND ACHIEVEMENT

NOEL B. CUFF
Eastern Kentucky State Teachers College

I. Introduction

The history of education in the United States indicates that class, or social, distinctions and special privileges were early practices. The upper classes felt that there was no need for any learning for the "meanest ranks of mankind: their business is to labour, not to think." Hence the well-known laws of 1642 and 1647, ordering that all children should be taught to read, were not popular. This is evident from the fact that the original fine of five pounds was increased in 1671 to ten and in 1683 to twenty, and from the legislative complaint that the law was "shamefully neglected by divers towns." The great bulk of all children in early days—"wretchedly poor, unkept, hard-worked, beaten about, knowing strong drink early, illiterate, often vicious"—had a sad lot. For them there were few, if any, educational opportunities.

Social distinctions were also marked in the early American colleges.[6] Harvard, founded in 1636, and Yale, established in 1701, listed until 1772 and 1767 respectively the names of the students in their catalogues in an order that was supposed to indicate the social rank of their fathers or their families. When class lists were made up the students took their places in classes, dining rooms, and chapel in carefully graded precedence. This plan, however, became increasingly difficult to administer in a democracy. Then criticisms of the custom from students and parents forced administrators to take down the bars of aristocratic precedence in colleges and to discard the recognition of superior privileges and the rights of rank and station.

One sees even now in current literature criticisms of public education supported by such citations as this: "The 120-140 (IQ) group is made up almost entirely of children whose parents belong to the professional or very successful business classes. The child of a skilled laborer belongs here occasionally, the child of a common laborer very rarely indeed. At least this is true in the smaller cities of California among populations made up of native-born Americans."[8] The implications in such quotations are: (1) that a close correlation exists between intelligence test scores and socio-economic status; (2) that achievement and socio-economic status are positively related; and (3) that students with the mental ability requisite for high grade scholastic work come from social-economic strata that justify their attending select pay-schools.

Stoke and Lehman[7] take issue with Terman and others who claim that most of the gifted children in America come from the professional or very successful

business classes. They call attention to the following facts: (1) that most of the studies which have dealt with the question have revealed the correlation between IQ and social status to be between .30 and .40; (2) that several recent investigations involving large samples of gifted children show that the great majority of the group with IQ's of 120 or above and even those with IQ's of 140 or above come from the non-professional classes; and that in the United States the families contributing most of the superior children tend to have modest incomes. Argelander[1] also states that the correlation between economic status and intelligence is very slight for the school children of Mannheim.

The question might properly be raised, do intelligence tests measure general intelligence? In a recent nature-nurture controversy, Burks and Terman[2] assert that environment has little effect upon the IQ, but Freeman and his associates[4] insist that environment will increase appreciably the mental ability of the child. Similarly, Kelley states that "some 90 per cent of a general intelligence test and an all-round achievement test measure the same thing."[5]

In view of the varied results and conclusions, based largely on studies of elementary and high-school students, relative to the importance of socio-economic status, we have tried in the present study: first, to analyze the socio-economic status of 758 college freshmen; second, to find the correlation between the socio-economic status of freshmen and intelligence; third, to find the relationship between freshman achievement and socio-economic status; fourth, to determine the correlation between freshman grades and intelligence.

II. Investigation

The procedure used in this investigation consisted in giving and scoring according to the directions for using the following tests: Thurstone and Thurstone Psychological Examination (American Council) and the Sims' Socio-Economic Score Card (with the explanation, "Home means your own home; not your college home") to 317 freshmen in October, 1931, and to 441 freshmen in 1932-33. Then Edgerton's[3] table for finding point-hour ratios and standard scholarship rates was used to find scholarship rates for data obtained from the office of the College Registrar.

The results are recorded in Tables I to III. Table I shows, according to the Sims' Score Card, the socio-economic status of the college freshmen. It is evident from this table that 57 per cent of the freshmen come from homes that do not have telephones, that only 12 per cent have fathers who went to college, that 28 per cent come from homes that have less than 26 books, that 34 per cent come from homes that have from a half to a whole room per person, and that only 6 per cent come from the professional class.

TABLE I

Socio-Economic Status of College Freshman

Question	*Per Cent Indicating*	
1. Have you a telephone in your home?	Yes 43	No 57
2. Is your home heated by a furnace in the basement?	Yes 16	No 84

3. Do you have a bathroom that is used by your family alone?..... Yes 48 No 52
4. Do you have a bank account in your own name?..... Yes 49 No 51
5. Did your father go to college?..... Yes 12 No 88
6. Did your mother go to college?..... Yes 14 No 86
7. Did your father go to high school?..... Yes 32 No 68
8. Did your mother go to high school?..... Yes 33 No 67
9. Does your mother (or the lady in the house in which you live) regularly attend any lecture courses of which you know?..... Yes 43 No 57
10. Do you have your own room in which to study?..... Yes 71 No 29
11. Do you take private lessons in music?..... Yes 11 No 89
12. Do you take private lessons in dancing?..... Yes 8 No 92
13. Does your mother belong to any clubs or organizations of which you know? ..... Yes 46 No 54
14. Do you belong to any organizations or clubs where you have to pay dues? ..... Yes 28 No 72
15. Does your family attend concerts?

Never	20
Occasionally	72
Frequently	8

16. Where do you regularly spend your summers?

At Home	24
Away from Home	76

17. How often do you have dental work done?

Never	20
When Needed	63
Once a Year	20
Oftener	9

18. How many servants, such as a cook, a housekeeper, a chauffeur, or a maid, do you have in your home?

None	75
One Part Time	18
One or More	7
All the Time	

19. Does your family own an auto which is not a truck?

None	39
One	53
Two or More	8

20. How many magazines are regularly taken in your home?

None	9
One	9
Two	16
Three or More	66

21. About how many books are in your home?

None	2
1 to 25	26
26 to 125	46
125 to 500	21
More	5

22. How many rooms do your family occupy?
How many persons occupy these rooms?

Room-person Ratio	Per Cent
0 to .5	9
.51 to 1.00	34
1.01 to 1.50	33
1.51 to 2.00	15
2.01 up	9

23. Write your father's occupation on this line .....
Classification of father's occupation.
Group I. Professional men, proprietors of large business, and higher executives 6%
Group II. Commercial service, clerical service, large land owners, and so on...13%

Group III. Artisan proprietors, petty officials, printing trade employees, skilled laborers with some managerial responsibility, and the like.....55%
Group IV. Skilled laborers (with exception of printers) who work for someone else, and the like 24%
Group V. Unskilled laborers 22%

Table II gives the socio-economic centiles, the medians for the intelligence percentiles of the freshmen scoring in the respective S-E. centiles, and the standard-scholarship-rate medians for the indicated S-E. centiles. The data show that the highest S-E. score is 33, that the lowest is 3, and that the median is 16.6, the mean and S. D. are respectively 16.8 ± 5.9. Sims tentatively gives 10 as the median score for homes in the United States. Hence, it follows that about 75 per cent of the freshmen in this study are above the median score that is tentatively given as a norm. The results presented also show that the median intelligence centile for freshmen who are in the lowest socio-economic centile is 3, for those in the 50th S-E. centile the median intelligence centile is 20, and for those in the 90th S-E. centile the median for intelligence is 50. There is evidently a tendency for freshmen in the higher socio-economic centiles to have more intelligence (as determined by intelligence tests) than freshmen in the lower centiles have. Similarly, it is obvious that a tendency exists for freshmen in the higher socio-economic centiles to have higher scholarship rates.

TABLE II

SOCIO-ECONOMIC CENTILES AND MEDIANS OF INTELLIGENCE AND SCHOLARSHIP RATE FOR FRESHMEN IN THE RESPECTIVE SOCIO-ECONOMIC CENTILES

Socio-Economic Centile	*Score*	*Median of Intelligence*	*Standard Scholarship Rate*
H	33	60	6
90	25	50	4
75	21	35	4
50	17	20	4
25	12	20	4
10	9	20	3
L	3	10	3

Table III indicates that there is a tendency for a person who gets a good rating on the Socio-Economic Score Card to get a good rating on an intelligence test—the correlation is .24. The coefficient of alienation of .97 shows, however, that the standard error of prediction of intelligence from socio-economic scores would be .97 of the standard error that would be made by chance guessing. Similarly, the correlation of .10 is very low indeed. Only in the case of the correlation between intelligence and scholarship rate is the average error of prediction obviously less than one would make by mere chance guessing.

TABLE III

COEFFICIENTS OF CORRELATION AND OF ALIENATION

Measures Correlated	*r*	*k*
Socio-Economic Scores and Intelligence Percentiles	.24	.97
Socio-Economic Scores and Scholarship Rates	.10	.995
Intelligence Percentiles and Scholarship Rates	.54	.84

An examination of individual cases also indicates that one would make many errors in predicting scholarship from socio-economic status. For example, the girl who scored next to highest on the Socio-Economic Score Card made an average academic record of less than "C," while the girl who scored next to lowest on S-E. status made an average academic standing that is just above "C."

III. Conclusions

1. Many college freshmen come from the lower social-economic strata as measured by the Sim's Score Card. For example, only 12 per cent have fathers who went to college and 75 per cent do not have even one part time servant.

2. There is a tendency for those in the higher socio-economic centiles to score higher on intelligence tests and to make higher college grades. This is indicated by the fact that students falling in the 10th S-E. centile have a median intelligence percentile of 20 and a median scholarship rate of 3, while those falling in the 90th S-E. centile have intelligence and scholarship medians respectively of 50 and 4. A correlation of .24 between S-E. status and intelligence and a correlation of .10 between S-E. status and scholarship indicate slight positive relationships.

3. A coefficient of alienation of .97 indicates that the average errors one would make in guessing at intelligence from socio-economic status is almost as great as the average errors one would make by mere chance guessing at intelligence. This is even more nearly true, as is shown by a k of .995 of the errors that would be made in guessing at scholarship from socio-economic scores.

4. It would seem from the three conclusions that have been presented that college opportunities should not be based mainly upon social-economic status.

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WHAT EDUCATION IS OF MOST WORTH?

M. L. ALTSTETTER
State Teachers College, Fredericksburg, Virginia

It is probably a fortunate thing, as well as a lazy and convenient habit, that we take many things for granted. Certainly the above question makes some assumptions among others that there are various kinds of education and, more particularly, that education is really worth while. We take refuge in the fact that many of our state constitutions say bluntly that in a democracy education is a necessity; and Federal, state, and local governmental units raise and expend millions of dollars annually to meet the necessity. In the days of our prosperity it may be that to the necessity there was added some, if not many a luxury. Now we demand that distinction be made between necessity and luxury to the end that the latter may be eliminated. But luxury has a way of very quickly assuming the garb of necessity and claiming for itself some virtues.

Regardless of recent prosperity or present adversity, the question of relative values in education is an old one. It seems that Eve and the serpent debated the desirability of a certain kind of knowledge over others. Socrates got into trouble because he provoked the Athenian youth to thought regarding the relative values of certain facts or assumed truths. Spencer discussed the question of what knowledge is of most worth. The debate still goes on and in our democracy citizens of all ages and degrees of attainment are taking part.

It is notorious that many, many pupils have not found school interesting. Violation of compulsory education laws has been too common. Once the minimum age and grade attainments required by these laws have been reached, the percentage of pupils remaining in school has decreased rapidly. Numerous studies agree that the cause of withdrawal has not largely been economic pressure. Pupils, and very commonly parents, simply have not found school and its educational program worth while. The home, the street, the farm, the factory offered better values, educational or otherwise, so it was thought.

Nevertheless tens of thousands of pupils have continued from the public schools into college. What did they bring? Presumably a satisfactory knowledge of fundamentals and the ability to use it creditably. What have the colleges often found? We illustrate. On outline maps freshmen located Alaska where Brazil should be, in Africa, and in the midst of the Atlantic Ocean; the United States and North America could not be located by some; Greenland was placed in the Pacific Ocean near the equator; the Alps were in Egypt, etc. Spelling, capitalization, and punctuation are seemingly unknown arts to many. Mistakes in simple arithmetic are entirely too common. In a class of twenty-four all had studied the lever in high school, but only two or

three recalled ever having used one. But these students generally know how to play bridge and tennis, how to dance, how to operate an automobile, and how to behave properly at a social function. It was not a matter of ability, but rather one of relative values that determined these results.

The urge to reduce school expenditures during the last two or three years has been nation-wide in scope. Newspapers and magazines have not uncommonly stated that the schools have been the first to feel the cut in public expenditures. The conclusion is inevitable—the kind of knowledge or education offered by the schools is not worth the cost. Since this is the taxpayer's dictum, it should be said that he does not feel that the kind of knowledge or education he received in school is worth the cost he is asked to pay for his child's education. Since education goes on, no matter where or how, the more restricted school program supplemented by the home and the community is preferred to the more elaborate school program of the recent past. Possibly the taxpayer is right, whether we like it or not. Maybe he has asked of the schools bread and they gave him a stone. This statement implies that the schools have well-nigh failed in their mission. It contains much truth, but truth of quite a different nature than the figure usually signifies. Let us explain.

Taxpayers, parents, and pupils have asked for bread, that is, something of recognized value; and they have been given stones, things whose value is not so apparent or things which seemed worthless or even burdensome. The school may have sought permanent values, but it has too largely failed to make these values appreciable or attainable. One does not need to be hungry to know the value of bread. Its worth is appreciated by the youth and the adult, the ignorant and the learned, the unskilled and the artistic. How different with the stone! A few shining pebbles may be gathered, but not kept long. A boy may throw a stone at birds or insulators, but cares not what becomes of it. Only the sculptor can see the statue in the marble and it can be made apparent only through long and hard labor. Only the builder and the artisan can vision the crude stone as a temple and they know that the achievement means much time and constitutes a hard task.

Our school program has been concerned largely with knowledge which the adult world has considered valuable. Through centuries and even millenniums the race has achieved much and learned many valuable things. It has sought to perpetuate these values. Certainly this should be done. All has been valuable; all may be desirable knowledge, some for its own sake, some because it is necessary for further accomplishment, and other because it is necessary for continued existence. The last named body of knowledge is practical and indispensable. In considerable measure the home has undertaken to provide this information and the necessary skills. Knowledge for its own sake has relatively little appeal. Knowledge necessary for further achievement may have relatively remote or immediate interest. The last two types of education

have largely become the task of the school. In time the school program was dominated by scholars. Society was stratified. There were tool subjects and therefore practical subjects, but the goal of the curriculum tended to the acquirement of knowledge for its own sake, that is, a cultural education. In a democracy this was bound to involve difficulties. The effort to make all men and all men's children equal by making scholars of all must inevitably fail. Moreover the industrialization of society made the homes less able to provide the knowledge and develop the skills necessary for continued existence and the school was expected to do something about these things. The very considerable increase of vocational, technical, and professional courses, departments and colleges indicates a marked preference of these types of education over the so-called cultural type. Probably the working hours of our school products are being more efficiently used because of a more practical education. But how are the increasing leisure hours being used? Crime is rampant.

While these changes have definitely affected higher education, they have had little influence on educational practice in the elementary grades. Adult interests and values may properly be expected to influence the more adult units of our educational scheme intelligently and constructively. Supposedly adults have put away childish things and think as men. This very fact has in large measure made adult values and interests mischievous and dangerous in the elementary schools. Having themselves put away childish things, adults seek to dominate the child world with their concepts and procedures. The history of education contains only a few names of men and women who have had a sympathetic understanding of child life and even these have understood very imperfectly. Only very recently has a real study of child life and its regimen been undertaken. The influence of this new understanding is as yet definitely limited.

The defectiveness of our educational program has long been evident. Thinkers readily recognized it and the lay public constantly reminded the ordinary schoolmen that the product of the schools was unsatisfactory. The criticism applied to every grade level—elementary, high school, and college. Laws requiring the teaching of physiology and hygiene did not produce healthy citizens. Required courses in American history and civics have not produced civic-minded men and women. The readers in which every lesson pointed a moral have been pronounced failures. Education of the kind offered was not functioning and therefore was of too little worth. Correction of the faults of the old educational procedure becomes a necessary consideration. These faults are largely due to three factors. Our program has been incomplete; it has had a wrong viewpoint, especially in the elementary and lower high school grades; it has followed a wrong procedure.

The incompleteness of our program has been due largely to the great stress on subject matter to the neglect of other important elements. This does not

mean that there has been too much content. Rather the schools need to provide a much wider range of subject matter. The fault is one of proportion. Too little emphasis has been given to the development of skills, physical as well as mental. Children have been taught the desirability and necessity of good habits, but little effort has been made to develop them. Memorizing rules of grammar is one thing and using correct English quite another. Children are learning to abhor war, but those attitudes that make for friendliness and co-operation and respect for the rights of others have not been developed. A knowledge of mechanics and electricity is most valuable, but it may be used to rob banks if we fail to have our pupils make their lives conform to their high ideals of conduct and character. It is well to know the life and works of Beethoven, of Rembrandt, and of Angelo; but life is richer if one appreciates and enjoys good music and the paintings of the masters and experiences comfort and rest by worshipping in a cathedral. There has been provided mental provender in fair abundance, some physical, but very little emotional, even though our behavior is determined largely by our emotions.

The faulty viewpoint is manifest in the fact that subject matter has been selected largely on the basis of adult values, past, present, or future, real or assumed. Repeated reference has been made to this. Children have been taught reading, writing, and arithmetic because these subjects are of value to adults. In ten or twenty or forty years these children will be thankful that they have learned these things. We should have known that most children would be quite willing to postpone the learning until the necessity was nearer at hand. Many did and many still do. Reading, writing, and arithmetic have childhood and youth values as well as adult, present as well as future.

The wrong procedure has been a natural resultant of the wrong viewpoint. To the extent that procedure has been organized, it has been logical rather than psychological. Children have made pages of loops and ovals, then letters, and finally words and sentences. It was assumed that short words are easier to learn to spell than longer ones. Rules and definitions were learned without application or understanding. School was not life, but preparation for living. Children were to behave like grown-ups and imitate their products. It was not known or assumed that children could produce their own reading material and illustrate it, devise their own arithmetic problems, and organize their own social and civic group and determine proper rules of conduct.

From this brief and imperfect review some positive and contructive conclusions may be ventured. These conclusions cannot claim to produce the education that is absolutely of most worth. The claim is only relative and makes comparison with the program of the past and present. With this in mind, it is suggested that if our education is to be of most worth it must become significant, socializing and productive.

By significant is meant that education must have meaning and must be of definite import and worth while to the learner. This applies to any age or grade. Reading, writing, and arithmetic are significant to the child now as well as ten or twenty or forty years from now. Children's interests, differing as children and their interests do, are to be a matter of primary concern. The material to be learned is not something imposed by authority, but is something that is in some measure understood and appreciated and increasingly understood and appreciated by the learner. It does not mean memorizing, but understanding. It does not mean learning dates and names, but it makes dates and names meaningful. The materials of education are largely within the pupil's life and experiences and life and learning become more and more meaningful and therefore more enriching. The emotions are stirred. Significance begets interest, interest stimulates activity, interest and activity are essentials in learning, and learning is essential in education. Once education is made really significant to the learner, longer vacations may be extended the truant officers and taxpayers' objections will be less vigorous.

Education also needs to be socializing in its influence. Americans especially need to learn this. The frontier is gone. Now it is necessary that rugged individualism adapt itself to the requirements of the social as well as the civic group. We can no longer do just as we please. Traffic laws need to be observed, as police and hospital records abundantly testify. Other laws are just as necessary and just as much to our advantage. This does not mean loss of opportunity for self-development and denial of initiative. It means the surrender of some personal desires, but the acquirement of greater contributions from society in return. We need to learn that we give far less to society than society gives to us. A few tax dollars from each of us has given us our roads, schools, and protection against violence and pestilence. To society we owe art, literature, religion, inventions and machinery, and all that these mean. We therefore need to be socialized, learn to live and work and play with others. Through co-operative effort each can make more adequate return to all for what all have done for each. The effort of each to do for all demands initiative and leadership as well as co-operation, and initiative and leadership therefore need to be cultivated. In a democracy such education is imperative.

Finally, education needs to be productive. Results, tangible or intangible, are expected and demanded by the public year after year and generation after generation. Not only that, there must be increasing results. There must then be both continuity and growth. The college graduate who came away from commencement and exclaimed, "Educated, by gosh," could not claim that his education was productive. A course has not been productive when students vow never to open that textbook again, even though they received a mark of "A." Courses in the social studies are productive when better civic

attitudes and interests result. Health education will mean the establishment of proper health habits. Literature and art are productive when they lead to enjoyable and profitable use of leisure time. Science will not be something we studied in books and experimented with in laboratories, but will be a constant experience and of vital significance. In brief, a productive education means not simply knowledge, but increasing knowledge; it means habits and skills which function; it means appreciations, attitudes and ideals which result in nobler living. It means that society and its wealth are not only to be perpetuated, but also to be constantly recreated; something new, better, and nobler is to be achieved. Opportunity is therefore extended to each pupil to express himself through line and color, constructive materials, words and sentences, music, games, experimentation, and exploration in the hope that he may some time produce something better. Search for the new and unknown is to be encouraged. Adjustment is to be made to new and strange situations whether social, vocational or physical, at work or during leisure time. Opinions and convictions are to be held subject to modification as new understandings demand. An education that is really productive believes in a better future. It requires therefore that the effort be made to improve and enrich self so that the next generation shall be better because of better parents. There shall be better homes, better communities, and a better state.

It may be permissible to add that there is reason to believe that fairly rapid progress is being made toward such an achievement. Virginia is now developing such a program, as are also other states. When entire states undertake by organized effort to make education significant to every learner of every age, to make it socializing in its influence on every pupil, and to make it really productive, there is indeed promise of a better future. It is gratifying also to note that these states undertook such a program during a period of depression. The morrow is encouraging, even though much time and effort are necessary, but time and well-directed effort produce results.

When Russia undertook to uproot an old civilization and build a new, she turned to the school as her most effective agency in the establishment of the new order. She mobilized her entire educational system behind the new civilization which she was attempting to establish. The leaders of that country realized that youth accepts changes more readily than the older generation. A tremendous effort was made to enlist the youth in behalf of the new cause, for the Soviet recognized that ultimate success depended on the attitude of the younger generation of Russia. Likewise, if the new deal is to succeed in this country, its exponents will be compelled to turn to the schools of this nation to establish in the minds and hearts of the youth the ideals for which it stands.

H. L. DONOVAN.

AN ABSTRACT OF THE RELIGIOUS INSTRUCTION OF THE SLAVES IN THE ANTEBELLUM SOUTH

C. V. BRUNER

The purpose of this study has been to present an unprejudiced account of a rather neglected field of American History. The aim has been to study the forces that aided and those that hindered the religious development of the slaves in the antebellum South, together with the methods used by the slaveholders for the moral and spiritual improvement of the colored race.

In making this study chief reliance has been placed upon such primary sources as the minutes of the governing bodies of the various churches, reports of associations and meetings having as their object the consideration of the problem involved in this study, statutes of the slaveholding states, and letters and addresses by leading men in this field. Of special value have been the *Proceedings of the Meeting in Charleston for the Religious Instruction of the Negroes*, the *Annual Reports of the Association for the Religious Instruction of the Negroes in Liberty County, Georgia*, and the account of the *Religious Instruction of the Negroes* by Dr. C. C. Jones who was one of the outstanding missionaries to the Negroes and a leading authority on the progress of this movement. *The Journal of Negro History* has been a fertile source for short secondary accounts of special phases of the question. Monographs of considerable value are: *The Religious Development of the Negro in Virginia* by Joseph B. Earnest, and *Slave-Conversion in South Carolina* by Susan Markey Fickling. Shorter accounts may be found in many of the church histories and other general histories which deal with this field.

The slaves brought from Africa many of their superstitious beliefs. The tenacity with which the Negroes clung to their primitive beliefs made very difficult the problem of slaveholders who were inclined to give them religious training. During the first century of American slavery very little effort was made to Christianize the Negroes. Obstacles to the work seemed overwhelming. It was the common belief of that day that one Christian might not hold another in servitude; the conversion of the slave, therefore, would necessitate manumission and the consequent loss of property. It was believed also that Christianization would increase the expense of the slaveholders by raising the standard of living among the slaves. Some masters were reluctant to grant to the slaves the time from their work to attend religious meetings. Many people also believed that Negroes were incapable of understanding or being benefited by religious training, and, therefore, thought that efforts in that direction would be wasted. Churches at this time, and especially the Church of England, which dominated the religious life of the South for many years, were lacking in mis-

sionary zeal; and a very large majority of the planters were wholly indifferent to their own religious welfare and, consequently, were not greatly concerned about the souls of their servants. Some progress however was made before 1740. Legislation by many of the colonial assemblies and judicial opinions by court officials in England gradually removed the fear that conversion would necessitate manumission. The Society for the Propagation of the Gospel in Foreign Parts was the most active missionary agency of the time. Many missionaries sent out by this organization labored among the Negroes and, in spite of the indifference or even opposition on the part of many of the masters, many converts were made. The Quakers and the Moravians also showed considerable interest in the religious welfare of the blacks. Of special significance was the first protest against slavery in America by the Quakers in 1688.

The second period of religious instruction of the slaves was the period of the Great Awakening, 1740-1790. The Presbyterians, Baptists, and Methodists were beginning to extend their work into the South. Each of these denominations was much more evangelistic than the Church of England, which rapidly lost its hold upon the colonists. The first stage of the Great Awakening in the South was the Presbyterian revival under the leadership of Samuel Davies and his associates. As the Presbyterian revival began to wane, the Baptist movement began. This in turn was followed by a Methodist revival during the Revolution. Soon after the close of the Revolution all three denominations simultaneously began an evangelistic movement which resulted in many additions to the church membership. In each of these revivals the Negroes were cordially welcomed to the services and in many instances they composed a considerable part of the congregation. They were strongly attracted by the intense emotionalism which characterized the meetings and many were received into the churches with the white people. As the masters became more concerned about their own religious welfare they also became more interested in the souls of their servants. Moreover the belief that the Negroes were on a level with brutes and were unable to profit from religious instruction had been disproved, and some of the planters now came to regard the conversion of the slaves as a means of making him a more trustworthy and valuable servant. This attitude, however, did not prevail among all of the Southern slaveholders. Another force which worked to the advantage of the Negro during this period was the philosophy of equality and independence which accompanied the Revolution. and which led to the formation of several separate Negro congregations that were wholly, or partially, self-governing.

In 1790, therefore, all of the obstacles that had impeded the progress of religious instruction in the past had, to a great extent, been removed. Conditions seemed most favorable for the rapid promotion of the spiritual uplift of the slaves. But just at the time when the outlook was most encouraging, new obstacles arose which served to retard the movement. The third period, 1790-

1830, was characterized, therefore, by a general retardation in the missionary work among the slaves, but also by a decided recovery in the latter part of the period. For a time the religious fervor of the Great Awakening was nullified by a wave of atheism which came to America as a product of the French Revolution. The planters again lost interest in religious matters. About the same time the anti-slavery movement began to gain momentum. Anti-slavery societies were formed in many of the Southern states and much anti-slavery propaganda was spread throughout the slaveholding section of the country. Although the anti-slavery leaders were by no means as radical in their views as were the abolitionists who arose during the following period, yet their activities were regarded by the slaveholders with considerable suspicion and some alarm. Contemporary with the anti-slavery movement was a series of slave insurrections, the most important of which were the Gabriel insurrection in 1800 and the Vesey conspiracy in 1822. Inasmuch as both of these insurrections were led by Negro church members and were planned at Negro religious meetings, the planters came to regard the Negro meetings as channels for the spread of the anti-slavery propaganda. For a while the religious instruction of the Negroes was neglected. Some interest however was evident. The spectacular religious movement in Kentucky and Tennessee about the beginning of the century brought many new colored members into the churches. The belief that it was advantageous economically to Christianize the slaves was becoming more generally accepted. In 1829, Charles Cotesworth Pinckney, a namesake of his famous uncle, addressed the Agricultural Society of South Carolina in support of the religious instruction of the slaves. The movement seemed to be regaining very rapidly its lost momentum. Another important development of the period was the rise of the two independent Negro denominations—the African Methodist Episcopal Church and the African Methodist Episcopal Church, Zion. Many separate Negro congregations were established, especially by the Baptist churches.

The fourth period, 1830-1845, was in some respects a repetition of the preceding period, beginning with another reaction but closing with a very decided recovery and an increase in interest and religious activity that surpassed that of the former periods. The reaction was due primarily to the rise of the abolitionists. So radical were their utterances against the slaveholders and so persistent were their efforts to spread their insurrectionary propaganda through the South, that the Southern planters not only were angered because of the bitter attacks upon their characters and the institution from which their interests were regarded as inseparable, but also were frightened at the prospect of a slave insurrection. The specter of insurrection became reality with the famous uprising of Nat Turner in 1831. Again the abolition propaganda had reached the Negroes through the church, or at least it was so regarded, for Nat Turner was a religious fanatic. The inevitable result was a wave of legislation which

had as its object the restriction of Negro meetings and Negro education so as to safeguard against the work of the abolitionists. These laws forbade preaching by Negroes except when licensed by Southern church bodies, and meetings except when a specified number of acceptable white persons were in attendance. The laws also forbade the teaching of the Negroes to read or write. This reaction was not confined to the South. Many of the Northern states discriminated against the free Negro by denying him entrance into the state except under bond by two white persons guaranteeing his good behavior, by denying him the right to vote, to serve on juries, to testify in court against a white person, or to serve on the state militia. Education and religious instruction were denied to him to a great extent either by law or by custom. Only menial labor was open to him. The laws in the South, however, were not rigidly enforced. Many Negro preachers continued to preach without proper license; Negro meetings were held without the presence of white persons, and Negro schools were maintained in spite of the laws. It seems that the laws existed only to insure that all instruction should be by Southerners who were in sympathy with Southern institutions.

This period was also marked by the organization of two outstanding agencies for the religious instruction of the Negroes—the Association for the Religious Instruction of the Negroes in Liberty County, Ga., and the plantation missions. The former organization was promoted by the planters of Georgia, and, under the leadership of Dr. C. C. Jones, it did an outstanding work among the Negroes of that section of the South. The plantation missions were organized by Dr. William Capers of the Methodist Church in an effort to reach the slaves on the large plantations of the South who had had little contact with Christianity. The success of the missions was assured by the growing interest of the planters who supported the missionaries with their funds and often erected chapels on their plantations for the accommodation of the slaves. The fact that Dr. Capers was a large slaveholder increased the confidence of the planters in the missionaries whom he appointed.

The closing years of the period were marked by the schisms within the Methodist and the Baptist churches as a result of the friction which had developed over the slavery question. In one respect this division within the churches resulted advantageously for the religious instruction of the Negroes, for slaveholders who had been rather cool in their attitude toward the work of the churches among the Negroes because of the fear of the abolition sentiment of the Northern church members and preachers, now rallied to the support of the missionary efforts of the Southern churches since the fear of the abolition influence has been dispelled.

The last period of religious instruction of the slaves, 1845-1860, was a period of remarkable religious development among the Negroes. The masters displayed a far greater interest in the work than ever before. Several explana-

tions may be offered for this increasing interest on the part of the planters: (1) the abolition influence had been removed from the Southern churches by the schisms of 1844 and 1845; (2) the planters were now thoroughly convinced that religious instruction increased the value of the slaves; (3) the charges of the abolitionists that the slaves were living in a state of paganism could best be answered by encouraging the religious training of the Negroes; and (4) the planters as a whole desired to promote the happiness and general welfare of their servants. The period was ushered in by a very significant meeting of planters at Charleston in 1845 which had been called for the purpose of discussing the religious instruction of the Negroes. Reports of planters to a questionnaire which had been sent out before the meeting were almost unanimous as to the wisdom of training the slaves in religious matters and as to the general interest in the movement. All of the Southern churches during the period seemed to vie with each other in missionary work among the colored people. Practically every religious body had a standing committee on the religious instruction of slaves and nearly every report from 1845 to 1860 contained some account of the progress of the work. Resolutions and pastoral letters urged upon the ministry and the laity the importance of the work and the responsibility that rested upon the white people of the South. The plantation missions flourished as never before and became the "crowning glory" of Southern Methodism. Baptists, Presbyterians, and Episcopalians were almost as active as the Methodists. The Negro membership of the churches grew by leaps and bounds. The number of Negroes brought into the church was estimated to be greater than the number of converts in all of the foreign mission fields of all of the Protestant churches of the world. Even after the outbreak of the Civil War the efforts of the Southern churches in behalf of the slaves continued; and when the Confederacy was threatened with bankruptcy the appropriations for Negro missions were scarcely diminished.

The results of the efforts in behalf of the slaves in the antebellum South may be seen in the fact that in 1860 approximately one fourth of the slaves above eighteen years of age were members of the church as compared with one-third of the white people within the same age limits. Certainly we cannot conclude that the Southern masters had been entirely neglectful of their duties to their servants.

EXTENT AND SUPPORT OF POPULAR EDUCATION IN MEXICO

HAROLD H. PUNKE
Georgia State Women's College

As yet we in the United States have made little effort to understand the culture and institutions of our Latin-American neighbors; many people here still have vague ideas concerning the customs, schools, or other aspects of the civilization of even the closest of them. Since the late war, perhaps, somewhat more attention than formerly has been directed to these countries, due no doubt in part to the general expansion of our cultural interests, but also in part to the increasing number of persons of Latin-American birth who live in our own country. When, for example, the number of persons of Mexican birth living in this country increased from 700,541 to 1,422,533, or 103.1%, between 1920 and 1930,[1] we as a people have to become interested in the educational back-

TABLE I

PERCENTAGE OF ILLITERACY BY STATES AND TERRITORIES, IN THE MEXICAN POPULATION OVER NINE YEARS OF AGE; NUMBER OF PERSONS 6-14 YEARS OF AGE IN THE POPULATION; PERCENTAGE OF POPULATION WHICH IS OF SUCH AGE; AND PERCENTAGE OF CHILDREN OF SUCH AGE WHO ARE NOT IN SCHOOL.[1]

State or Territory	Pct. Illiteracy in Pop. Over 9 Years of Age 1921	Persons 6-14 Years of Age 1921	Pct. of Pop. 6-14 Years of Age in 1921	Persons 6-14 Years of Age 1926 (Estimated)	Children of School Age (6-14 Yrs. Old) Not in School 1926	Pct. That Col. 6 is of Col. 5
1	2	3	4	5	6	7
Aquascalientes	53.79	19,995	18.6	22,630	10,028	44.3
Baja Calif. Norte	27.66	6,289	26.7	9,910	1,443	14.6
Baja Calif. Sur	42.97	8,946	22.8	9,870	4,209	42.6
Campeche	56.19	15,900	20.8	16,890	9,488	56.2
Coahuila	50.68	75,841	19.3	80,330	28,249	35.2
Colima	50.11	20,367	22.2	17,320	13,864	80.0
Chiapas	80.40	100,529	23.8	113,550	84,180	74.1
Chihuahua	67.84	85,147	21.2	95,780	46,334	48.4
Distrito Federal	24.10	147,647	16.3	175,910	10,512	6.0
Durango	63.64	64,582	19.2	70,960	49,135	69.2
Guanajuato	77.00	167,720	19.5	181,040	118,648	65.5
Guerrero	81.26	128,758	22.7	137,580	111,572	81.1

[1]Data from the *Fifteenth Census*, as indicated by Henry Pratt Fairchild "Significant Changes in American Population Growth," *Current History*, Vol. XXXV, No. 5 (February, 1932), p. 668.

State or Territory	Pct. Illiteracy in Pop. Over 9 Years of Age 1921	Persons 6-14 Years of Age 1921	Pct. of Pop. 6-14 Years of Age in 1921	Persons 6-14 Years of Age 1926 (Estimated)	Children of School Age (6-14 Yrs. Old) Not in School 1926	Pct. That Col. 6 is of Col. 5
1	2	3	4	5	6	7
Hidalgo	76.22	162,826	26.2	170,670	125,015	73.2
Jalisco	57.49	245,825	20.6	250,990	158,690	63.2
Mexico	67.53	186,160	21.0	196,710	125,583	63.8
Michoacan	78.76	196,195	20.9	205,050	149,097	72.7
Morelos	56.26	16,360	15.8	18,900	8,054	42.6
Nayarit	59.06	29,825	18.4	30,670	15,668	51.1
Nuevo Leon	37.63	68,386	20.3	77,280	32,797	42.4
Oaxaca	80.04	190,988	19.6	201,630	126,593	62.8
Puebla	69.83	194,064	18.9	206,670	90,087	43.6
Queretaro	81.39	45,231	20.5	46,760	36,209	77.4
Quintana Roo	32.87	1,427	13.0	1,510	620	41.1
San Luis Potosi	79.48	88,729	19.9	101,230	57,756	57.1
Sinaloa	62.87	73,421	21.5	78,650	34,339	43.7
Sonora	45.53	57,922	21.1	62,770	25,790	41.1
Tabasco	73.50	56,542	26.9	58,620	37,782	64.5
Tamaulipas	42.82	51,681	18.0	57,310	19,811	34.6
Tlaxcala	69.12	38,286	21.4	41,280	22,668	54.9
Veracruz	73.30	250,404	21.6	276,590	185,286	67.0
Yucatan	57.45	74,712	20.9	77,960	32,298	41.4
Zacatecas	68.58	77,097	20.3	86,660	49,845	57.5
Totals	64.97	2,947,762	20.6	3,190,380	1,821,730	57.1

[1]Data for columns 2, 3, and 6 were taken from *"Noticia Estadistica sobre la Educacion Publica en Mexico Correspondiente al Ano, 1926."* Mexico, D. F., *Publicaciones de la Secretaria de Educacion Publica*, 1928, Table CXXXII, pp. 648-9.

Data for column 4 were calculated from source material as indicated. Data on total population by states for 1921 were secured from the source indicated in the foregoing paragraph.

Data for column 5 were calculated to the nearest ten, as follows: The population for 1926 was estimated on the basis of the census data for 1921 and 1930, assuming that the rate of change was uniform during the period 1921-30. It was then assumed that the proportion of children in the population was the same in 1926 as in 1921. Hence the figures given in column 5 were obtained by using the percentages indicated in column 4. The census data for 1930 were taken from *The World Almanac and Book of Facts* for 1932. New York: The New York World-Telegram, 1932, pp. 682-3.

Data for column 7 were calculated as indicated in the column heading. Although the percentages appearing in this column are based on a calculated number of children 6-14 years of age in 1926, rather than on a census count, it was felt that this procedure would give a more accurate index of the percentage of all children of these ages not in school in 1926 than could be obtained by using the number of persons 6-14 years of age in 1921 as a basis of comparison with the number not in school in 1926, as was done in the source materials.

ground of this body of our population, whether we are eager to do so or not. We cannot dismiss "Mexico" merely as a half-barren desert, covered with scattered cactus and inhabited primarily by snakes and bandits, but must attempt to understand the culture of the country and the character and change of its institutions. It is the purpose of this article to indicate the status and recent change of certain aspects of the schools and education of that country.

Illiteracy in relation to the proportion of children in the population, and to children in school: The percentage of illiteracy in Mexico is generally known to be high, compared with that in our own country. Table I indicates how high it is, and the variation among the different states and territories.

In 1921 the percentage of illiteracy varied from 24.10 for the Federal District, the area in and around the capital city, to 81.39 for the state of Queretaro, lying somewhat to the northwest. The average for the fourteen and one-third million people of the republic was then 64.97%.

Table I also indicates by states the number of persons who in 1921 were 6-14 years of age, and the percentage of the total population of such age (col. 4). This percentage varied from 13.0 in the territory of Quintana Roo, to 26.9 in the state of Tabasco. Generally speaking, this means that Tabasco had twice as large a proportion of its population of school age as had Quintana Roo, a fact of fundamental importance so far as any attempt to provide universal education is concerned. The table further shows that the percentage of the children within these age limits, 6-14 years, who were not in school was 64.5 for Tabasco and 41.1 for Quintana Roo. Moreover Tabasco had 73.50% of illiteracy in 1921, whereas Quintana Roo had only 32.87% illiteracy. Further comparisons can be made, which indicate that twelve of the fifteen political divisions which are at or above the average in percentage of children not in school (col. 7), are also among the fifteen divisions at or above the average in percentage of illiteracy. Similarly nine of the fifteen divisions which are at or above the average in percentage of children not in school, are among the seventeen divisions at or above the average in percentage of children 6-14 years of age in the population. In general then the states and territories having the largest percentage of children in the population, are the ones having the highest percentage of illiteracy, and also the ones having the smallest percentage of children of school age in school.

Comparison of Mexico and the United States, as to proportion of children in the population and percentage of children in school: Certain comparisons between Mexico and the United States will give the American reader a clearer understanding of the Mexican educational situation. Table II presents data for the United States, which show the percentage of children within certain age limits in the population, and the percentage of persons of such age in school.

In California only 21.5% of the population is 7-20 years of age, the lowest percentage for this age group indicated for any state, whereas South Carolina, standing at the other end of the list, has 35.5% of its population within the same

TABLE II

PERCENTAGE OF THE POPULATION BETWEEN CERTAIN AGE LIMITS, AND THE PERCENTAGE OF CHILDREN OF CERTAIN AGES WHO ARE IN SCHOOL, FOR THE UNITED STATES BY STATES.[1]

State	Pct. of Pop. 7-17 Yrs. Old (Inclusive) 1930	Pct. of Pop. 7-20 Yrs. Old (Inclusive) 1930	Pct. of Persons 7-20 Yrs. Old (Inclusive) in School 1930	State	Pct. of Pop. 7-17 Yrs. Old (Inclusive) 1930	Pct. of Pop. 7-20 Yrs. Old (Inclusive) 1930	Pct. of Persons 7-20 Yrs. Old (Inclusive) in School 1930
1	2	3	4	1 (Continued)	2 (Con)	3 (Con)	4 (Con)
United States	21.6	27.2	74.0	D. of Columbia	15.2	20.3	76.2
Alabama	25.8	32.1	68.5	Nebraska	21.9	27.5	77.3
Arizona	22.2	27.7	71.9	Nevada	17.5	22.0	79.4
Arkansas	25.3	31.6	71.8	N. Hampshire	19.8	24.7	76.5
California	16.8	21.5	81.2	New Jersey	20.7	26.0	73.4
Colorado	21.2	26.6	77.3	New Mexico	24.7	30.7	72.1
Connecticut	21.4	26.7	73.3	New York	18.8	24.1	75.0
Delaware	20.5	25.8	73.8	N. Carolina	27.0	33.5	70.6
Florida	21.6	27.2	70.8	N. Dakota	25.5	31.8	76.1
Georgia	26.0	32.8	64.6	Ohio	20.3	25.4	78.4
Idaho	24.1	29.8	81.5	Oklahoma	24.2	30.4	75.2
Illinois	19.6	24.9	74.7	Oregon	19.2	24.4	80.0
Indiana	20.3	25.5	77.2	Pennsylvania	22.3	27.8	73.9
Iowa	21.0	26.3	77.7	R. Island	20.8	26.2	72.0
Kansas	21.3	26.8	78.6	S. Carolina	28.5	35.5	65.6
Kentucky	23.9	29.5	70.6	S. Dakota	23.8	29.6	77.8
Louisiana	24.1	30.3	67.8	Tennessee	24.0	30.3	70.4
Maine	20.6	25.5	77.3	Texas	23.3	29.6	69.1
Maryland	20.8	26.1	70.2	Utah	25.3	31.3	83.1
Massachusetts	19.9	24.9	77.3	Vermont	20.5	25.6	75.4
Michigan	20.7	25.7	77.4	Virginia	24.7	30.8	69.1
Minnesota	21.7	27.1	76.7	Washington	19.5	24.7	80.9
Mississippi	25.4	32.0	72.0	W. Virginia	24.9	30.7	73.0
Missouri	20.0	25.3	72.5	Wisconsin	21.4	26.7	76.3
Montana	22.4	27.7	79.8	Wyoming	21.3	26.8	78.8

[1]The data are from *Fifteenth Census*, as reported in *The Journal of the National Educational Association*, Vol. 21, No. 1 (January, 1932), p. 34. Certain adaptations were made for the data appearing in column 2.

age limits. In regard to the proportion of persons 7-20 years of age in school, the situation is practically reversed; two states (Idaho and Utah) have a slightly higher percentage of the population 7-20 years of age in school than has California, whereas one state (Georgia) has a slightly lower percentage of its population of such age in school than has South Carolina. Other comparisons indicate that sixteen of the twenty-two states which are below the average in percentage of persons 7-20 years of age in school, are among the twenty-three states at or above the average in percentage of the population 7-20 years of age. In the United States then, as in Mexico, the states having the highest percentage of children in the population are the ones having the smallest percentage of

children in school. The social and economic reason for this relationship seems clear; the states with the largest percentage of children in the population have the largest percentage as dependents, and the smallest percentage as productive individuals to support schools or similar institutions.

Tables I and II permit of certain more direct comparisons between the United States and Mexico than those of the foregoing paragraph. Variations existing between the age limits of the groups studies for the two countries, and between the dates to which the data pertain, make detailed comparisons unwarranted. Nevertheless certain general comparisons seem justified. Table II shows, for example, that in twenty-seven of our forty-eight states, and in the District of Columbia, the proportion of persons 7-17 years of age is less than 22% of the total population. Moreover the average for the country as a whole is 21.6%. From Table I, (col. 4) however, it appears that seven of the thirty-two political divisions of Mexico have 22% or more of the population within the age limits 6-14 years. That is, these Mexican states have a larger percentage of their total population within the age limits 6-14 years, than has the typical American state within the limits of the wider period 7-17 years. Three Mexican states or territories have over 26% of their population in the age group 6-14 years, whereas only one American state, North Carolina, shows a corresponding percentage of the population in the wider age group 7-17 years. The average for Mexico in the age group 6-14 years, is only 1% less than the average for the United States in the age group 7-17 years. Clearly if the data for Mexico covered as wide age limits as the data for the United States, the tables would have shown that several of the Mexican states have a much higher percentage of the total population within the ages of childhood than has the typical American state. The fact that the American group here considered is somewhat older than the Mexican group means of course that due to mortality the American group is not quite as large as it would be if the lower age limit of the group was the same as in the case of the Mexican group. This factor, however, is too small materially to alter the conclusions to be drawn from the data as presented. It is obvious then, that a much larger proportion of the population in the United States is at the level of mature productive capacity than is true of Mexico. The foregoing considerations of course do not take into account the difference in productivity of the average mature person in the two countries, due to differences in material equipment and other facilities, a difference which further increases the difference in ability of the two countries to maintain schools.

The considerations of the foregoing paragraph have a definite bearing on the proportion of children in the two countries who are in school. Only three of the political divisions of Mexico have a higher percentage of the young 6-14 year-old group in school, than has the American state standing at the bottom of the list, Georgia, in the much wider and older 7-20 year-old group. Here too it is clear that if the Mexican data covered the ages 7-20 years instead of

6-14, the percentage listed as being in school would be much smaller than here indicated, making the differences between Mexican and American states greater than shown by the tables presented.

Federal, state and municipal support for education in Mexico: Different political divisions are important in the support of public education in Mexico. Data permitting comparisons of these divisions for certain years are presented in Table III.

TABLE III

RELATIVE IMPORTANCE OF DIFFERENT POLITICAL DIVISIONS IN THE SUPPORT OF PUBLIC EDUCATION IN MEXICO DURING THE YEARS 1926-1928, AS MEASURED BY THE AMOUNT CONTRIBUTED FOR THIS PURPOSE.

POLITICAL DIVISION	YEAR		
	1926a	1927b	1928c
Municipalities	2,038,700.81d	3,021,497.13	2,275,758.69
States	19,923,560.26	18,914,858.53	19,160,285.65
Territories	1,417,255.25	1,826,156.25	1,636,760.74
Federal District	e	155,110.00	155,110.00
Federal Gov. (E. P.)f	26,196,650.07h	25,225,998.51	26,387,673.06
Federal Gov. (O. S.)g		3,370,582.48	2,970,464.40
Total	49,576,166.39	52,514,202.90	52,586,052.54

a. The data for this column of the table were taken from "*Noticia Estadistica sobre la Educacion Publica en Mexico Correspondiente al Ano 1926.*" Mexico, D. F.: *Publicaciones de la Secretaria de Educacion Publica*, 1928, Table I, p. 5.
b. Ibid., for the year 1927, published 1929, Table III, p. 65.
c. Ibid., for the year 1928, published 1930, Table II, p. 11.
d. The amounts are given in pesos. One dollar is equivalent to approximately ..... pesos.
e. Not listed separately for 1926.
f. Through the Secretary of Public Education.
g. Through other secretaries.
h. Not listed in 1926 as two items.

The table shows that in Mexico the federal government contributed more to the support of public education during the years 1926-28 than did any other agency listed. The table further indicates that the absolute amount, as well as the proportion of the total expenditure for education, which was contributed by the federal government increased steadily during the period indicated. The individual states constituted the second important source of funds for public school support, whereas the contribution of the municipalities was rather small. The contribution of the territories appears small, in comparison with that of the states, because there are only three territories, the combined population of which in 1930 was only slightly more than 100,000.

A further understanding of the position which public education occupies in the financial thinking of Mexico can be gained from a comparison of the

TABLE IV

TOTAL AMOUNT OF THE FEDERAL BUDGET FOR THE YEARS 1925-28, AND PERCENTAGE DEVOTED TO EDUCATION AS COMPARED WITH OTHER GOVERNMENTAL FUNCTIONS AND ACTIVITIES[1]

GOVERNMENTAL FUNCTION OR ACTIVITY	YEAR			
	1925	1926	1927	1928
Total Amount (**Pesos**)	374,360,201.25	354,963,699.39	328,654,951.62	291,117,769.12
Military purposes	22.65	23.69	25.73	29.03
Public debt	22.58	17.95	18.24	11.15
Department of Finance (**Hacienda**)	22.84	13.45	9.41	9.01
Department of Communications	8.33	11.23	11.16	12.47
Department of Education	5.87	7.52	7.85	9.28
Department of Agriculture	3.47	8.37	9.25	10.84
Establishment of Factories	3.72	4.87	4.67	4.50
Legislative Department	2.85	3.01	2.86	2.11
Foreign Relations	1.51	1.77	1.89	2.31
Department of Health	1.22	1.95	2.54	2.58
Department of Industry	1.38	1.83	1.92	2.20
Department of Interior (**Gobernacion**)	1.04	1.18	1.00	1.07
Judicial Department	.84	1.07	1.16	1.16
Treasury Department (**Contraloria**)	.73	.95	1.03	1.03
Executive Department	.47	.55	.62	.53
Attorney-General (**Procuraduria**)	.27	.31	.36	.39
Department of Statistics	.23	.30	.31	.34
Totals	100.00	100.00	100.00	100.00

[1]The percentages appearing in this table were calculated from data presented in *"Noticia Estadistica sobre la Educacion Publica en Mexico Correspondiente al Ano de 1927."* Mexico, D. F.: *Publica ciones de la Secretaria de Educacion Publica,* 1929, Table I, p. 55.

expenditures for education made by the federal government, with expenditures made for other items included in the federal budget. Such comparison can readily be made from Table IV.

The percentage of the federal budget devoted to different governmental functions varies from year to year. In accordance with the model set by more progressive countries, Mexico devotes a large slice of its federal budget to military purposes. The public debt has also figured prominently in the budget for the years indicated. The reason that the proportion of the budget devoted to "finance" in 1925 was much greater than in any other one year is that during that year 55,900,000.00 pesos were set aside by the federal government for the establishment of the Bank of Mexico.[1] The next three items appearing in the table, communications, education and agriculture, may be thought of as comparable to one another, in two or three respects at least. In the first place all three have to do primarily with internal development, rather than with maintaining the machinery of government, with military affairs, or with matters directly relating to other countries. In the second place the proportion of the federal budget devoted to each of the three items, when viewed over the period covered by the table, is roughly comparable. Moreover from 1925 to 1928 there was a substantial increase in the proportion of the budget devoted to each of the three items. The proportion of the budget devoted to education varied approximately from 5% to 10% during the period indicated. The next item listed, establishment of factories, is also one of internal development, although somewhat less important in the federal budget than the three preceding items. Other comparisons can be made from the table, but a detailed consideration of the remaining items is not essential in this connection. The table shows that with the decrease in total amount of the budget during the period covered, major reductions were made in the proportion devoted to public debt and to the Department of Finance, rather than in that devoted to communications, education, agriculture, or the establishment of factories.

A consideration of the proportion of state budgets devoted to education shows that states vary markedly in their support of education. Table V facilitates a comparison between states in this respect.

In addition to the variation among states, regarding the proportion of the state budget devoted to public education, the table shows that in many instances the same state varies considerably from year to year. In 1928 Chiapas, the state at the foot of the list, devoted little more than one-fifth as large a part of its state budget to education as did the state at the other end of the list, Jalisco. During 1926 and 1927 the variations among states were in the ratio 7 to 50 and 11 to 50, respectively. Further comparisons indicate that from 1926 to 1928 fifteen of the twenty-eight states showed decreases in the percentage of their budgets devoted to education. This fact is of interest in connection with the

[1] See citation on Table IV.

TABLE V

PER CENT OF STATE BUDGET OF DIFFERENT STATES OF MEXICO DEVOTED TO PUBLIC EDUCATION, FOR THE YEARS 1926-1928.

STATE	PER CENT OF BUDGET DEVOTED TO EDUCATION		
	1926a	1927b	1928c
1	2	3	4
Aquascalientes	30	28	27.11
Campeche	7	17	13.44
Coahuila	25	25	23.81
Colima	25	26	23.07
Chiapas	16	15	9.93
Chihuahua	46	46	35.41
Durango	11	11	17.96
Guanajuato	33	35	28.02
Guerrero	32	30	32.48
Hidalgo	36	35	30.53
Jalisco	46	46	46.11
Mexico	31	28	31.54
Michoacan	39	38	29.22
Morelos	25	23	22.98
Nayarit	36	28	27.13
Nuevo Leon	26	28	31.27
Oaxaca	27	16	15.80
Puebla	32	31	32.00
Queretaro	30	30	27.44
San Luis Potosi	28	26	24.01
Sinaloa	40	41	41.25
Sonora	50	50	39.54
Tabasco	24	22	26.95
Tamaulipas	42	44	31.41
Tlaxcala	29	28	31.20
Veracruz	32	24	35.25
Yucatan	30	29	36.54
Zacatecas	37	37	37.48

a. The data for this column are adapted from data presented in *"Noticia Estadistica sobre la Educacion Publica en Mexico Correspondiente al ano de 1926."* Mexico, D. F.: *Publicaciones de la Secretaria de Educacion Publica,* 1928, pp. 638-9.

b. Ibid., for the year 1927, published 1929, pp. 1084-5.

c. Ibid., for the year 1928, published 1930, pp. 784-5.

data of Table III, which indicate that the total amount devoted by the different states to public education showed a net decrease of more than three-fourths of a million pesos between 1926 and 1928. Whether this decrease is a result of adverse economic conditions, a change of attitude on the part of states toward public education, or is an unfavorable phase of a fluctuation covering a longer period of time, the data at hand does not clearly indicate.

TABLE VI

TOTAL EXPENDITURE PER CAPITA FOR PUBLIC EDUCATION, AND THE RANKING OF STATES ON SUCH EXPENDITURES, ON THE PER CENT OF STATE BUDGET DEVOTED TO THIS PURPOSE, ON PER CENT OF CHILDREN OF CERTAIN AGES IN THE POPULATION, AND ON PER CENT OF SUCH CHILDREN IN SCHOOL.[1]

STATE OR TERRITORY	EXPENDITURE FOR EDUCATION			Rank of States on Per Cent of Children 6-14 Years of Age in Total Pop., 1921 (Beginning with smallest)	Rank of States on Per Cent of Children 6-14 Years of Age Not in School, 1926 (Beginning with smallest)
	Total Per Capita from Fed. Gov., State and Municipalities, 1927 (Pesos)	Rank of States on Item of Col. 2	Rank of States on Pct. of State Budget Devoted to Education, 1928 (Beginning with smallest)		
1	2	3	4	5	6
Aguascalientes	3.31	6	10	4	9
Campeche	3.69	4	2	15	13
Coahuila	3.05	8	7	7	2
Colima	2.79	11	6	24	27
Chiapas	1.21	26	1	26	25
Chihuahua	3.28	7	23	20	10
Durango	2.12	16	4	6	22
Guanajuato	1.44	24	13	8	20
Guerrero	1.04	28	21	25	28
Hidalgo	2.68	12	15	27	24
Jalisco	2.17	14	28	14	17
Mexico	1.70	21	19	18	18
Michoacan	1.75	20	14	16.5	23
Morelos	2.84	9	5	1	6
Nayarit	1.90	19	11	3	11
Nuevo Leon	2.80	10	17	11.5	5
Oaxaca	1.18	27	3	9	16
Puebla	1.40	25	20	5	7
Queretaro	2.13	15	12	13	26
San Luis Potosi	1.45	23	8	10	14
Sinaloa	3.57	5	27	22	8
Sonora	4.81	2	26	19	3
Tabasco	2.04	17	9	28	19
Tamaulipas	7.05	1	18	2	1
Tlaxcala	2.38	13	16	21	12
Veracruz	1.93	18	22	23	21
Yucatan	4.09	3	24	16.5	4
Zacatecas	1.69	22	25	11.5	15

[1]The data for column 2 are from "*Noticia Estadistica sobre la Educacion Publica en Mexico Correspondiente al Ano de 1927.*" Mexico, D. F.: *Publicaciones de la Secretaria de Educacion Publica*, 1929, p. 135.

The data for column 4 were obtained by ranking the items in column 4 of Table V.

The data for columns 5 and 6 were obtained by ranking the items in columns 4 and 7, respectively, of Table I, omitting the Federal District and the three Federal territories, *Baja California Norte, Baja California Sur* and *Quintana Roo.*

Support for education as related to percentage of children in the population, illiteracy and children in school: A comparison of the rankings of states on percentage of state budget devoted to education, with rankings on such items as total amount per capita devoted to education, percentage of children in the population, and percentage of children of certain ages in school, seems desirable at this point. Such a comparison can be made from Table VI.

Tamaulipas, the state heading the list in per capita expenditures for education, spent in 1927 nearly seven times as much per capita on public education as did Guerrero, the state at the foot of the list. Four states spent somewhat more than half as much per capita as Tamaulipas, whereas the other twenty-one states spent somewhere between half the amount spent by Tamaulipas and the amount spent by Guerrero. A comparison of the ranks by states on expenditures per capita for education with ranks on percentage of children 6-14 years of age in the population (cols. 3 and 5), shows little relationship between the two items; the coefficient of correlation calculated from ranks is + .08 [$p \equiv 1 - \frac{6(Vx - Vy)^2}{N(N^2 - 1)}$ —Holzinger, '28, p. 278]. Similarly there seems to be no close relationship between the ranks of states on percentage of state budget devoted to education and percentage of children of the foregoing age in the population. The coefficient of correlation for these two items (cols. 4 and 5) is — .21. A significant relationship, however, does appear between the per capita expenditure for education and the percentage of children in school. The correlation coefficient for these two items (cols. 3 and 6) is + .61. It was stated on page 2 that the states having the highest percentage of children 6-14 years of age in the population tend also to have the lowest percentage of these children in school. However, there appears to be no close relationship between the rankings of states on amount spent per capita for education and the percentage of the state budget devoted to that purpose. The coefficient of correlation (cols. 3 and 4) is + .19.

The comparisons of the foregoing paragraph indicate that the states with the largest percentages of children in the population are not necessarily the ones that devote the largest proportion of their state budgets to education. This fact together with the wide variation among states in expenditures per capita as indicated in column 2 of the table, suggests that the distribution of federal funds is not necessarily being made where most needed. As one might expect, the states making the highest expenditure per capita for education have the highest per cent of their children in school.

Distribution of Public Support for Education: Nothing has thus far been said concerning the different types of educational agencies to which public support is given, or the relative provision made for education at different levels. Data bearing on these two items are presented in Table VII.

TABLE VII

PERCENTAGE DISTRIBUTION OF EXPENDITURES FOR PUBLIC EDUCATION, DURING THE YEARS 1925-1928, ACCORDING TO EDUCATIONAL AGENCY OR FUNCTION.[1]

EDUCATIONAL AGENCY OR FUNCTION	YEAR			
	1925	1926	1927	1928
Elementary and Normal Schools	42.60%	46.10%	44.03%	39.14%
Rural Schools	9.51	11.75	12.19	17.08
Technical Schools	15.08	13.40	10.51	11.32
Secondary Schools	a	1.22	4.04	3.91
National University	12.77	12.16	9.35	9.05
Division of Fine Arts	3.13	4.85	3.48	2.71
Tr. of Teachers in Service (**misiones culturales**)	a	.12	2.47	1.82
Libraries	1.85	1.68	1.19	1.12
Museums	2.60	.89	1.54	1.43
Radio	.21	.23	.24	.19
Div. of Pupil Hygiene	.99	1.10	.88	.85
Div. of Publications	1.23	1.10	1.29	.11
Administration (**oficinas superiores**)	10.03	5.40	8.78	11.27
Total	100.00%	100.00%	b99.99%	100.00%

[1]The data for the table are adapted from *"Noticia Estadistica sobre la Educacion Publica en Mexico Correspondiente al Ano 1927."* Mexico, D. F.: *Publicaciones de la Secretaria de Educacion Publica*, 1929, Chart No. 28, pp. 66-67.

a. Not listed separately for 1925.

b. A slight error in the original data makes this total less than 100.00%.

American readers might think that some of the items appearing in Table VII are not matters with which a department of education would be directly concerned. However, the scope of such a department varies considerably from country to country.

Table VII clearly indicates that public expenditure for elementary and normal schools greatly exceed the expenditure for any other single item listed. When these schools are considered along with rural schools, which are essentially a type of elementary school, over half of the expenditure for public education during the years indicated is accounted for. The steady increase in the percentage of total expenditures which is devoted to rural schools indicates the effort being made to extend a rudimentary education to the Indian population in scattered rural districts. Technical schools occupy a more prominent place in the budget than the group listed as secondary schools. This is undoubtedly due in part to the recent organization of secondary schools in the present sense of the term, and to the offering in technical schools of some of the vocational aspects of what we in this country consider secondary education. The national university figures prominently in the public expenditure made for education. A separate department for the fine arts reflects the Latin-American interest in the arts. It is of interest to compare the expenditure made for this division, or for museums, with that made for the Division of Pupil Hygiene.

Distribution of Schools As to Types and Enrollment: In indicating the number of schools of different types, and the enrollment in schools according to type, a classification of schools has been adopted in Table VIII, based on the means of support and the character of education offered.

Table VIII indicates a sprinkling of kindergartens, most of which are private institutions. So far as number is concerned, rural schools are prominent in the educational program of all public agencies. Since the data on enrollment in rural and primary schools are not tabulated separately for schools supported by the states or for those supported by private agencies, it is impossible to state what proportion of the enrollment shown in columns 12 and 16 is for rural schools and what proportion for urban schools. From the data on number of schools (cols. 9 and 13), however, one might suppose that the enrollment in the rural schools constituted a substantial proportion of the totals for rural and primary schools.

The table shows that six of the sixty-seven secondary and preparatory schools are supported by the Federal government, but that these Federal schools enroll nearly half of the pupils enrolled in schools of this level. There is a relatively large number of private secondary schools enrolling few students. The normal schools appear to be mainly state institutions, both as to number of schools and enrollment, although the table shows a substantial enrollment in the Federal normal schools. Roughly two-thirds of the schools of fine arts are privately supported, but approximately two-thirds of the total enrollment in the fine-arts schools is in Federal schools, with two-thirds of the remainder in state schools. When measured by enrollment, the privately supported institutions occupy a much more prominent place in the field of technical, industrial, commercial, and trade schools, as compared with schools otherwise supported, than they do in regard to education of any other type of institution listed. Of the total enrollments indicated for schools of each of the three different means of support, schools offering education of this type (technical, etc.) enroll more students than schools offering any other type of education above the elementary level. This situation reflects a fairly active demand for education of a practical character, whether offered in public or in private institutions. So far as enrollment is concerned, professional schools can be considered either Federal or state institutions.

Certain comparisons of a slightly different character than those of the two foregoing paragraphs can be made from Table VIII. The totals for the year 1926, appearing at the bottom of the table, indicate that the enrollment in schools supported by each of the three means listed is considerably more than half boys. So far as individual school-types are concerned, however, there are some instances in which the enrollment of girls exceeds that of boys: Federal and state kindergartens; Federal and state technical industrial, commercial and trade schools; and private schools for the fine arts and for the

TABLE VIII

NUMBER OF MEXICAN SCHOOLS AND NUMBER OF PUPILS ENROLLED, CLASSIFIED ACCORDING TO CHARACTER OF EDUCATION GIVEN AND ACCORDING TO MEANS OF SUPPORT[1]

Type of School, According to Character of Education	Total No. of Schools, Public and Private	Total Enrollment in All Schools, Public and Private		Public (Oficiales) Schools								Private Schools			
				Supported by Federal Government				Supported by States and Municipalities					Enrollment		
		1926	1928	No. of Schools	Enrollment			No. of Schools	Enrollment			No. of Schools	Males	Females	Total
					Males	Females	Total		Males	Females	Total				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Kindergarten	381	12,124	a27,452	37	3,193	3,308	6,501	47	2,856	2,867	5,723	297	No da	ta for 1	926
Rural	10,782	1,223,670	1,402,731	2,952	136,953	69,430	206,383	6,232	413,939	343,969	757,908	1,598	47,905	40,782	88,687
Primary	6,013			550	96,317	74,375	170,692	3,535				1,928			
Secondary and Preparatory	67	12,653	16,024	6	4,471	1,455	5,926	33	4,040	855	4,895	28	1,277	555	1,832
Normal Schools	65	7,358	7,059	11	970	519	1,489	34	1,429	3,646	5,075	20	461	333	794
Fine Arts	22	4,645	2,520	2	2,253	842	3,095	7	642	344	986	13	106	458	564
Technical, Industrial, Commercial and Trade	287	41,108	41,132	29	6,724	10,498	17,222	61	3,215	6,589	9,804	197	7,390	6,692	14,082
Professional Schools	57	9,345	9,763	9	3,997	1,907	5,904	40	2,341	444	2,785	8	321	335	656
Totals, 1926	17,674	1,311,003		3,596	254,878	162,334	417,212	9,989	428,462	358,714	787,176	4,089	57,460	49,155	106,615
Certain Totals for 1928	17,923	.....	1,506,681	4,076	.....	.....	537,657	9,943	.....	.....	778,700	3,904	.....	.....	190,323

[1]The data are for 1926 except where otherwise specifically indicated. The data for 1926 are adapted from *"Noticia Estadistica sobre la Educacion Publica en Mexico Correspondiente al Ano 1926."* Mexico, D. F.: *Publicaciones de la Secretaria de Educacion Publica,* 1928, Table CXXXI, pp. 643-47. For the data for 1928 see ibid. for the year 1928. published 1930, Table CCXXII, pp. 762-65, and Table CCXXIII, pp. 766-69.

a. Column 4, line 1, 11,607 of this number were listed as in private kindergartens, a type of school for which data are not available for 1926.

b. Including 468 evening schools, enrolling 26,932 adults, which number is included in the enrollment figure given in column 3.

professions. The greater number of girls than of boys in the technical, industrial, commercial, and trade schools, as a group, suggests a rather heavy weighting in favor of stenographic and certain other types of commercial training. This, however, is not definitely shown by the table. No very good reason appears why the enrollment of boys should so greatly exceed that of girls for the rural and primary schools. It seems that in general education, even at this rudimentary level, is not thought to be as essential for girls as for boys. The difference in favor of the boys indicated for most types of schools offering education above the elementary level, can undoubtedly be explained on the same basis.

In making certain comparisons between 1926 and 1928, it may first be noted that distinct increases occurred in enrollment in elementary and in secondary schools (cols. 3 and 4). A substantial decrease occurred in enrollment in fine-arts schools, whereas schools of other types showed no very great changes. This seems to indicate major emphasis on expanding education at the lower levels, rounded out for an increasing number of children by a general course of a more secondary level, rather than on specialized fields at a secondary or higher level. Expansion at the lower levels is an obvious need in a country with a high percentage of illiteracy and of children not in school, such as exists in Mexico.

The data for 1926 and 1928, appearing at the bottom of the table, indicate that most of the increase in school enrollment during the two-year period was in Federal schools. Private schools showed substantial increases, whereas schools supported by states and municipalities showed actual decreases. Hence the period showed an increase in the prominence of the Federal government and of private agencies in the field of education, but not of states or municipalities.

When the totals for 1926 and 1928 regarding enrollment in schools of all types are compared (bottom, cols. 3 and 4), one becomes skeptical as to whether the percentage of the total population which is enrolled in school showed any significant increase during the two-year period. Since the population of Mexico was 14,334,096 in 1921* and 16,404,030 in 1930,** there was an increase of roughly 230,000 per year during the intervening period. Without specific data at hand, it is probably conservative to assume that the immigration into Mexico does not exceed the emigration from the country, and consequently that the increase in population is mainly a natural increase. Hence if the schools accommodated the group of children which became of school age, there would certainly have been a greater increase in enrollment during the two years than 195,678, the difference between the totals of columns 3 and 4 of Table VIII. These comparisons suggest that in 1928 the percentage of children enrolled in schools was not much greater than in 1926, that is, some-

* and **, see citations given for Table I.

what less than 50% of those of school age. The foregoing statements, however, should not be interpreted as meaning that there has been no improvement during recent years in Mexican schools and education; the span of time here considered it too short to justify sweeping conclusions.

Summary.—It may be briefly stated in summary that nearly two-thirds of the population of Mexico is illiterate, and that in general illiteracy is highest in states having the highest percentage of children in the population. Moreover, the states having the highest percentage of children are usually the states having the smallest proportion of children in school, and are commonly not the states making the highest per capita expenditure for education. The major portion of the budget for public education, however, is devoted to elementary education, although secondary education is coming to receive slightly more attention than formerly. The Federal government is apparently becoming relatively more important in the support of public education, and the states relatively less important. Certain improvements have come about in Mexican education in recent years, but social and economic conditions make progress slow and difficult.

A CHALLENGE TO THE ELEMENTARY SCHOOL

In the present period of uncertainty in our social evolution it is imperative that the elementary teachers of the nation should realize more definitely than ever the responsibility that rests upon them for the inculcation and development of those attitudes and ideals which are generally accepted as essential elements in the characters of worthy citizens. In the elementary division of our school system the types of learning activities which contribute to character training must be more definitely identified and clarified and the opportunities for training in character education must be utilized to the fullest extent. The times are such as to shake many from a steadfast hold on fundamental principles of conduct. No greater responsibility, no greater opportunity has faced the elementary school than it now faces. Never has the need for trained and devoted teachers been greater. We must meet the challenge of the times!

IRVING P. FOOTE,

FRESHMAN ORIENTATION AND GUIDANCE IN STATE TEACHERS COLLEGES

E. E. CORDREY
Arkansas State Teachers College, Conway, Arkansas

The purpose of this study has been to learn the practices of state teachers colleges with respect to the nature and extent of work attempted in the matter of freshman orientation and guidance. The material used has been obtained from ninety-one schools. Of these colleges, twenty were visited in person by the writer and the problems of orientation and guidance discussed with school officials. Data from the other seventy-one teachers colleges were obtained by correspondence with school officials—chiefly presidents and deans of the institutions.

In the letters to the college officials the following questions were emphasized: Do you have a "freshman day" or a "freshman week"? What do you do for the freshmen during this time? What particular kinds of intelligence and achievement tests do you give to freshmen when they present themselves for admission to college? Are these tests given before or after the student has registered? What use do you make of the information obtained as a result of the tests? What machinery have you set up to insure proper guidance of students during the freshman year? Who is in charge?

Replying to the first question asked, 71.4 per cent of the colleges state that they do and 28.6 per cent that they do not have a freshman day or freshman week. Of those schools which designate a special time for freshman orientation programs, 24.6 per cent give one day, 29.8 per cent two days, 28.1 per cent three days, 10.5 per cent four days, and 7 per cent five days. One college has discontinued freshman week and substituted therefor one hour each week throughout the year as an orientation period. Three schools which have no freshman days offer freshman orientation courses during part or all of the first year. Three have no time set apart as freshman days, but do pay special attention to the freshmen during the first week of school in the way of providing special entertainment for them. Another college which has no special freshman period has an orientation class for girls in charge of the dean of women. Two colleges report that they have discontinued freshman week. A few schools which do not set apart a special time for freshman orientation do have a rather well outlined testing program.

Of the sixty-five colleges which report a freshman period at the beginning of the school year, sixty-two have attempted to answer the question, "What do you do for the freshmen during this time?" The most universally expressed object of the work undertaken with the freshmen seems to be to "get acquainted." It is quite frequently stressed by college officials that incoming

freshman students should be given opportunity to become acquainted with the faculty, with each other, and with the college in general. Next to getting acquainted, the importance of studying curricula and learning how to register is stressed. Other activities of freshman week listed in the order of frequency of mention are: studying activities of the college, administering tests, studying use of library, studying social customs and standards, teaching students how to study, and giving physical examinations.

Sixty-two of the colleges studied give some sort of psychological or scholastic aptitude test. Of these, 35.5 per cent use the American Council tests. This test is the one most extensively used in the schools included in this study. Other tests in the order of the extent to which they are used are the tests put out from the Teachers College at Greeley, the Otis, the Army Alpha, the Ohio State University and the Terman tests; 35.5 per cent of the colleges reporting do not state the test forms which they make use of in the psychological examinations.

Sixty-one schools report the giving of various types of achievement tests. Of these, fifty-two, or 85.3 per cent, state that they give tests in English. It should be noted here that a few schools merely stated that they do give achievement tests, but did not say what kind of achievement tests they use. However, of all the achievement tests, those in English are the most universally given. Listed in the order representing numbers of schools reporting them as being given, other tests are as follows: mathematics, reading, elementary subjects, penmanship, music, and high school subjects.

Because of possible uses which might be made of these tests, it was thought advisable to learn if the tests were given before or after the freshmen had registered. 60.7 per cent of the colleges reported that they give the tests before and 39.3 per cent after permitting the student to complete his classification. Of those giving the tests before registration, several schools state that the students are classified before the test papers have been graded.

The most general use made of the results of the tests is for purposes of guidance, 82.5 per cent of the colleges reporting this use of the tests. 19.3 per cent state that the test scores are used as a basis for the sectioning of classes. The test used most for this purpose is the English test. Only 10.5 per cent of the schools giving tests make any use of the tests as even a partial basis for determining admittance to college, and most of these schools are in eastern states. Seven per cent report the use of the tests for research.

With reference to the machinery set up for freshman orientation and guidance, there is great lack of uniformity among the colleges. The most common practice seems to be to place the work in charge of a special committee or faculty group which has been charged with the work. In a considerable number of schools the work is under the direction of some dean—the dean of the college, the dean of women, the dean of men, or the dean of

women and the dean of men jointly. In a few schools the work has been placed in the hands of the registrar or the registrar and the dean of the college jointly. Also, in a few schools certain individuals on the faculty have been selected for the work because of special qualifications. In one college the work is in charge of the student government association.

College authorities are not at all agreed as to either the advisability of having a freshman orientation period or the nature of the orientation and guidance program. While it is true that the larger number of college officials seem to think freshman day or week is a very splendid help in getting the freshmen started right, a few quite frankly express doubt that the time thus spent is worth very much. Referring to freshman day, one college president says: "We found the day much more helpful than harmful." Another states: "It has been our feeling that freshman day is of positive benefit." Still another president writes: "The chief difficulty which we have found with freshman week was in the fact that new students, somewhat bewildered by the unaccustomed surroundings and not having yet encountered the actual situations in which the information was to be applied, received, and retained only a very hazy impression of their freshman week experience." Speaking in a somewhat different vein, an official in another large teachers college expressed it as his opinion that it would be far better to treat the freshman as though they had a little sense and not pamper them so much like babies.

The work of freshman orientation and guidance is being handled with such excellent results at one of the colleges visited by the writer that mention is being made of it in this paper. I refer to the state teachers college at Maryville, Missouri. At this institution, freshman guidance is in the hands of a guidance department. This department is a special committee of which Mr. Bert Cooper is the chairman. The work of freshman day is carefully planned. Each new student is interviewed, and his needs and desires are considered in outlining his work for the freshman year. The usual tests are given. Freshman guidance has just begun when freshman day is over. Freshman students are assigned to faculty advisers who keep in close touch with them throughout the year. A carefully planned orientation course is offered. Freshmen must take this course. The work of the freshman advisors and the orientation course are closely supervised by the chairman of the guidance committee. Grades made by freshmen during the first year in college are compiled and studied. Records of all data are accurately kept, and at the end of each scholastic year very full and complete reports are made of all work done by the guidance department.

In contrast with the work being done at this institution, freshman orientation and guidance is too often neglected or carried on in more or less nonchalant manner. The attitudes of college officials toward the work are quite varied. Perhaps this is due to varying degrees of success which have attended attempts at freshman orientation and guidance in the different institutions.

EDITORIAL

INTEGRATING EDUCATIONAL INFLUENCES

An educational institution, whatever its grade, is one which affords an opportunity for learners to become as nearly as possible the kinds of persons its staff hopes to have learners become. An examination of this apparently self-evident statement reveals several implications that are not self evident. In the first place, the provision of an opportunity for "becoming" implies that a theory or a belief is held with respect to the kind of task the school should undertake. This theory necessitates a harmonization and reconciliation of such divergent views as that of the school as a place where the learner is indoctrinated, and that of the school as a place where the learner is allowed a maximum of freedom. In the second place, there is implied that those who constitute the directive force of the institution actually have in mind the kinds of individuals they hope the products of the school will be. And in the third place, it is implied that the school have in mind the method (or methods) to be used in aiding students to grow into what they ought to become. The success of any educational institution depends largely on the extent to which it coordinates and integrates the educative influences within itself.

We generally think of the directive influences of the school as including particularly the work of the classroom teacher, forgetting that there are other subtle yet none the less potent forces at work. In the latter category are to be included the out-of-class influence of teachers, the qualities exhibited by student leaders, and the pattern set by the administration itself. Whenever we neglect to take into account such directive influences as these, we place ourselves in the position of one who would explain a phenomenon without giving attention to relevant antecedent factors.

It is a difficult task to identify and weigh causal factors leading to any given result. In the case of a very complex process like that of an institution seeking to facilitate the production of a desirable end result, not all of the contributing factors are known with certainty. However, we do know a good many of the essential conditions that facilitate the process. The wisdom of identifying and establishing those we do know is apparent. On the other hand, what seems to be the obviously wise thing to do does not always constitute the program which is most easily executed. As a matter of passing interest, the absence of a program is an easy way to forestall criticism of failure to carry a plan to completion. We have fallen into a charitable habit of accepting an absence of a plan with a shrug of the shoulders and the remark that we will muddle through. The fallacy in this charitable attitude is the assumption that muddling actually carries one through. It is pertinent to inquire: "Through what?"

There is more than a trite literary flourish in a student's reference to his college as his Alma Mater. The relationship between a student and the school that enrolls him is strangely like that existing between parent and child. A father who boasts of his ability to circumvent certain laws is not likely to be successful in his attempts to engender respect for the law he violates. Moreover, since the child is given to hasty generalization, he is apt to reach the conclusion that the proper attitude toward laws in general is one of vocal support only. The institution that provides large doses of advice on commencement day, yet flagrantly violates the principles it preaches in many of the social situations where the student body sees the institution at work, is fooling no one—least of all the student. Too often such an institution succeeds only in making students believe that the ideals it would instill are those it practices, not those it preaches.

To maintain consistency between words and actions is most difficult for any individual who would live a well-ordered life. The integration of an institutional personality is even more difficult because it involves a group of individuals who have, in addition to their efforts to maintain their own personalities on an even keel, the added burden of handling the less controllable factors of institutional balance. Even so, we who work in educational institutions could do much that we leave undone in the way of adjusting our actions to accord more nearly with our idealistic sentiments. For example, administrators could avoid some of the contradictions involved in exalting fine and lofty ideals while at the same time they exemplify ideals that are neither fine nor lofty. Thus teachers could avoid the inconsistencies in recommending one kind of ethics while they furnish living examples of adherence to another less desirable ethics. Thus the athletic coach could avoid the inconsistency of prating about ideals of sportsmanship while he acts as under-cover agent for an illicit professional organization. A perfect balance between actions and words perhaps represents an unattainable ideal in the case of individuals as well as institutions, but do even as well as we can do would make of the educational institutions we represent far more powerful influences in helping youth to become what the best thinkers of all ages are pretty well agreed it should become. The possibility for increasing our influence is great enough to warrant an energetic attempt to do the best we know.

C. W. K.

THE OLD TAMMANY SPIRIT

There is no more fundamental need than for public schools, adequate in number and well taught. There exists no greater menace to the intelligence, integrity, and economic welfare of our nation than the dilution of our educational effort and the corruption of our educational ideals. Whenever the administration of public schools draws its pattern from Tammany Hall, or the local equivalent, then the schools have very little to offer against the continuance of Tammany practices, indeed against their spread into all phases of our national life. A young lady, not a hundred miles from Nashville, affirms deliberately that she paid a trustee $75.00 for the school she is teaching. Her salary is $46.00 a month for a term of six or seven months. That, we are told insistently, is not an infrequent situation, that the old Tammany spirit is winning even against the schools, to shift the figure, is infecting quarters we thought immune.

Make a simple test of it in another situation. When there is not enough money to pay both the politician and the teacher, who goes unpaid? How many deputy sheriffs in the country find their salary seriously in arrears? This does not condemn the deputy sheriff. It does condemn the public which give him priority over the teacher in the availability of his daily bread.

Or let us approach the problem from another direction. The Tammany spirit insists upon the creation and maintenance of many positions entirely dissociated from public weal. An office holder is an active voter and frequently attuned with great sensitivity to his master's voice. In other words, the holder of an unnecessary office is very likely to become a cog in a machine that rolls on in the good old Tammany tradition. It is ordinarily very seldom that an office, however useless, is discontinued. In fact, it sometimes seems that the useless ones have a power of survival denied more vital ones.

Most states are maintaining at enormous expense an obsolete system of county government, counties organized when men drove to the county seats in ox wagons. For all these manifest weaknesses the public schools pay the penalty. They are always the scapegoat of the old Tammany spirit.

The teaching profession of the future will rank with that of lawyers, physicians, and other similar professions in public esteem and financial return. Teachers will be trained in professional schools to which a bachelor's degree or the equivalent, plus promise of teaching success, will be requisite to entrance. The administrative leadership of the teaching profession will be trained, competent, efficient, and professionally minded. The teachers of the future will teach in schools that provide curriculums adequate for the well rounded development of boys and girls. OREN F. CROW.

THE NEW BOOKS ON OUR SHELVES

[The reviews, most of them signed, are by appropriate members of the Faculty of GEORGE PEABODY COLLEGE FOR TEACHERS. Our limited space necessitates concise notices—brief, pointed, thoughtful comments, without elaboration.]

America in the Machine Age. By LOUIS WEINBERG. New York: D. C. Heath and Company. 1932. Pp. vi + 346.

This is a very timely book since it makes available for young Americans material which is very vital to a clear understanding of some of our recent problems in American History. It is organized into units and contains many interesting graphs and illustrations.

F. P. W.

Commercial Education in the High School. By FREDERICK G. NICHOLS, 1933. New York: D. Appleton-Century Co. Pp. xxi + 514.

An excellent discussion of the "Why" and "What" in commercial education.

O. C. A.

Computing Diagrams for the Tetrachoric Correlation Coefficient. By LEONE CHESIRE, MILTON SAFFIR, AND L. L. THURSTONE. 1933. Chicago: The University of Chicago. Pp. 360.

These are new tables derived by the authors to facilitate the finding of tetrachoric correlations; i. e., correlations between two qualities judged as being present or absent for each of several individuals. When the proportions of the cases in each of the four categories have been determined and summed both vertically and horizontally, the tetrachoric correlations can be read off from the tables accurately to two decimal places. Greater exactness, though not desirable for such correlations, may be obtained by interpolations. For this special forms are provided. The volume is a great time saver for statisticians.

J. P.

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